Trains ILLUSTRATED

Vol. XI MAY 1958 No. 116

An Ian Allan Publication

2/-

Locomotive Publishing Co. Ltd.

PHOTOGRAPHIC COLLECTION

The complete photographic collection of the Locomotive Publishing Company will be listed month by month in *Trains Illustrated*. The first instalment, which appears below, covers the broad-gauge Great Western Railway and its subsidiaries. We can now take orders for prints at the following prices: 3½″ × 5½″ – 1/-; 4¾″ × 6½″ – 2/6; 6½″ × 8½″ – 3/6; 8″ × 10″ – 5/-; 10″ × 12″ – 7/6. 10% discount for 12 or more prints from the same negative; 5% discount for an order for 12 or more prints from different negatives.

When ordering prints, it is necessary only to indicate the index number of the negative, but the prefix letters "A" or "B", where they occur, are most important and should not be omitted.

The following symbols are used in the lists: B – broadside; P – three-quarter view from front; T – three-quarter view from rear; E – engine only, with little or none of tender visible; L – left-hand side; – R right-hand side; O – official photograph.

LOCOMOTIVES **GREAT WESTERN RAILWAY — Broad Gauge**

	Loco No.	Name	Remarks	Index No.
R. Stephenson "Star" 2-2-2	—	*North Star*	BLO(1)	7438
		North Star	BRO(2)	7439
(1) Full size model, built 1925. (2) Original locomotive as preserved until 1906.				
Dean "Convertible" 2-2-2	3026		PL	A3790
Gooch "Iron Duke" 4-2-2	—	*Lord of the Isles*	BLO	8965
Armstrong "Rover" 4-2-2	—	*Great Western*	PL	A3791
	—	*Tartar*	PL	9774
	—	*Tornado*	PLE	4305
Gooch "Victoria" 2-4-0	—	*Brindley*	PL	5190
	—	*Napoleon*	PR	5188
Armstrong "Hawthorn" 2-4-0	—	*Dewrance*	BR(1)	1444
	—	*Melling*	PR	8389
	—	*Phlegethon*	PL(1)	1441
	(1) Cab fitted.			
Dean "Convertible" 2-4-0	14	—	PL	B8519
	16	—	BL	B8520
Gooch "Abbott" 4-4-0	—	*Antiquary*	PR	2378
Gooch "Caesar" 0-6-0	—	*Dido*	PR	5191
	—	*Liffey*	PR	5192
Armstrong "Convertible" 0-6-0	1206	—	BR	A3698
	1208	—	PR	A2179
Armstrong "Convertible" 0-4-2ST	3547	—	BR	B8532
Armstrong "Convertible" 0-4-4T	3560	—	PL	B8526
Gooch "Metropolitan" 2-4-0 WT	—	*Locust*	TR	F308
Armstrong "Hawthorn" 2-4-0 ST	—	*Melling*	BL	B8467
	—	*Ostrich*	BR	B8468
Armstrong "Convertible" 2-4-0 T	3501	—	PL	B8510
	3504	—	BL	5834
Armstrong "Sir Watkin" 0-6-0 T	—	*Miles*	BR	5193
Armstrong "Convertible" 0-6-0 ST	1243	—	PL	A2370
ROLLING STOCK				
Six-wheel First No. 27	—	—	B	A3327
TRAINS				
4-2-2 with express	—	—	—	1102
4-2-2 with express passing Uphill	—	—	—	1103
4-2-2 with up express, Sonning Cutting	—	—	—	1543
4-2-2 with down express	—	—	—	2851

LOCOMOTIVES **BRISTOL AND EXETER RAILWAY — Broad Gauge**

	Loco No.	Name	Remarks	Index No.
Gregory 4-2-2	5	—	PL	1704
	9	—	PL	A5053
	(G.W.) 2008	—	BR	B8259
Pearson/Armstrong 4-2-2	(G.W.) 2001	—	BR	A2140
Pearson 2-4-0	(G.W.) 2016	—	PR	A2105
	(G.W.) 2021	—	BLE	A2293
Pearson 2-2-2 WT	58	—	PRO	2381
Pearson 4-2-4 WT	40	—	PR(1)	0197
	46	—	BL	2380
	(G.W.) 2002	—	PL(1)	1502
	(1) Rebuilt.			
Pearson 4-4-0 ST	52	—	BR	3339
	(G.W.) 2053	—	PR	A3820
Pearson 0-6-0 ST	(G.W.) 2093	—	PL	A2042

LOCOMOTIVES **SOUTH DEVON RAILWAY**

Avonside 0-4-0 ST	(G.W.) 2175	*Raven*	BL	B8325
Slaughter,Gruning 4-4-0 ST	—	*Hawk*	PR	1698
Avonside 4-4-0 ST	(G.W.) 2125	*Sol*	BL	1697
	(G.W.) 2127	*Zebra*	TL	A3822
	(G.W.) 2131	*Osiris*	BR	B8321
Rothwell 4-4-0 ST	(G.W.) 2132	—	BR(1)	B8312
	(G.W.) 2133	*Hecla*	TL(2)	A3818
(1) Rebuilt. (2) Awaiting scrapping 1892.				
Avonside 0-6-0 ST	(G.W.) 2160	*Buffalo*	BL(1)	A3828
	(G.W.) 2162	*Camel*	BR	B8307
(1) Awaiting conversion to standard gauge.				
Avonside 0-6-0 ST	(G.W.) 2170	*Taurus*	BR	A3817

ROLLING STOCK **CORNWALL RAILWAY**

Six-wheel First No. 5	—	—	B	A5564

Locomotive Publishing Co. Ltd.

HAMPTON COURT, SURREY

trains illustrated

Editor:
G. FREEMAN ALLEN

Publisher
IAN ALLAN, LTD.
Craven House, Hampton Court, Surrey

Vol. XI, No. 116
MAY, 1958

The opinions expressed by contributors are not necessarily those of the Editor or Publishers

contents

TALKING OF TRAINS 225

A TRIO OF HIGH-BORN LADIES – *by* "45671" 231

DAY-TRIP TO GRIMSBY: Part One – *by* G. Freeman Allen 239

THE WESTERN REGION CROSS-COUNTRY DIESEL UNITS 242

PARK ROYAL RAILCARS FOR BRITISH RAILWAYS 244

SOUTHERN NEWSREEL 245

THE SOUTH WALES MAIN LINE – *by* Cecil J. Allen 247

RESORTS FOR RAILFANS: NEWCASTLE CENTRAL – *by* B. Perren 255

NEW IDEAS FROM OVERSEAS: FRENCH DUAL-FREQUENCY LOCOMOTIVES 265

TWO-IN-ONE LOCOMOTIVES 266

MODERN U.S. MARSHALLING 267

NEW READING FOR RAILFANS 270

LETTERS TO THE EDITOR 270

MOTIVE POWER MISCELLANY 274

Front Cover: The famous Caledonian 4-2-2 No. 123 has been restored to working order and had its first outing with two Caledonian coaches repainted in their original livery on March 18, from Perth to Edinburgh (Princes Street). The train, of which more news can be found in this issue, is seen in Gleneagles cutting.

[*W. J. V. Anderson*

TRAINS ILLUSTRATED may be obtained by direct subscription from the publisher post free at the rate of 13s. for six months or 26s. for 12 months.

EDITOR'S NOTE

The Editor will be happy to consider unsolicited contributions of articles or photographs, which should be sent to the Publisher's office. Every care will be taken, but neither Editor nor Publisher can accept responsibility in the event of loss. Articles should be written or preferably typed on one side of the paper only and double spaced, and should show the writer's name and address. Photographs should not be less than postcard size on glossy paper and each should have on the reverse details of the subject and the sender's name and full address. Notes for inclusion in "Motive Power Miscellany" and letters for publication are also welcomed and they should reach the Editor by the 28th of each month.

British Transport Publications for Sale

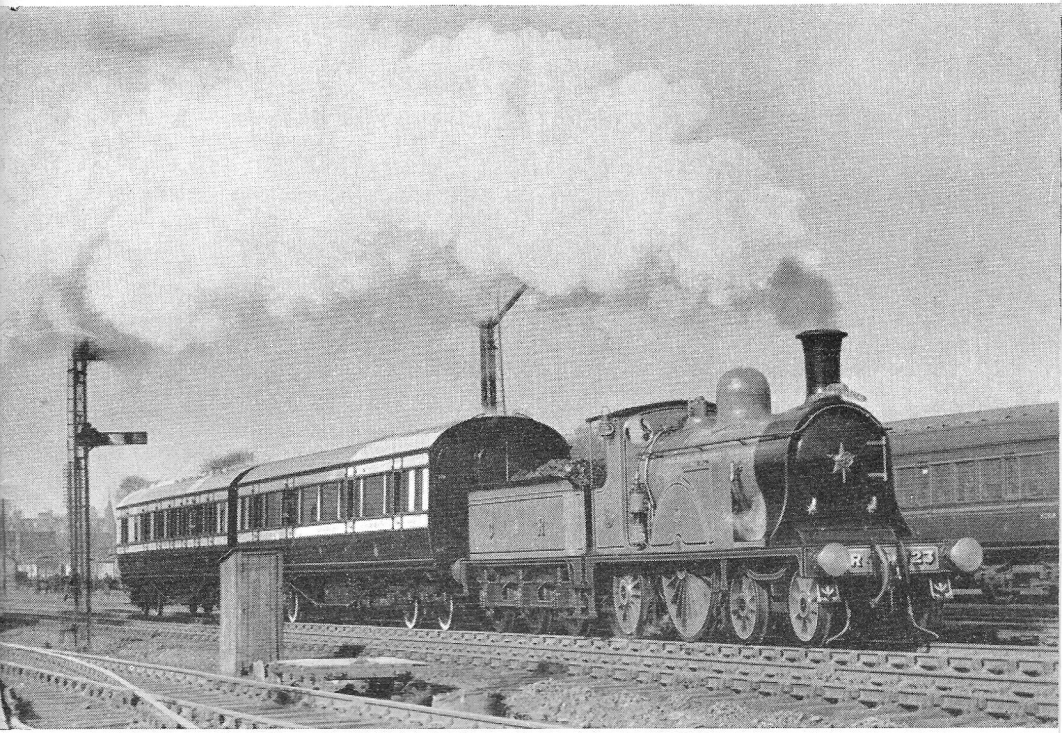
Modernisation and Re-equipment of British Railways	3/10
The System of Electrification for British Railways	3/10
Electrification of the Manchester, Sheffield and Wath Lines	2/6
Third Woodhead Tunnel	1/6
The Story of New Street Station, Birmingham	1/-
The North Eastern Railway *A Centenary Story*	2/6
15″ x 20″ Colour Print of 21 different types of British Railways Locomotives by A. N. Wolstenholme	5/-
15″ x 20″ Colour Print of 21 different types of British Transport Ships by Charles King	5/-
Transport Statistics—*A four-weekly Digest* *(Annual Subscription 32/6)*	3/-
British Transport Review—*Three issues a year* *(Annual Subscription 3/-; Subscription for 4 years 10/-)*	1/-
British Transport—Notes on the Annual Report and Accounts, 1956	1/-
Canals and Inland Waterways *Report of the Board of Survey*	8/6

Locomotive Performance and Efficiency Test Bulletins

No. 1	Western Region "Hall" Class	10/-
No. 2	Eastern and North Eastern Regions "B1" Class	10/-
No. 3	London Midland Region Class 4	10/-
No. 4	British Railways Standard Class 4	10/-
No. 5	British Railways Standard Class 7	10/-
No. 6	British Railways Standard Class 5	10/-
No. 7	W.D. Freight Locomotives	10/-
No. 8	Eastern and North Eastern Regions "V2" Class	10/-
No. 10	Southern Region "Merchant Navy" Class	10/-
No. 15	British Railways Standard Class 8	10/-
No. 16	Southern Region 2,000 H.P. Main Line Diesel Electric	10/-

Obtainable from:

BRITISH TRANSPORT COMMISSION
Publicity Division
Room 268
222 Marylebone Road, London N.W.1



★ The restored Caledonian 4-2-2, No. 123, leaves Perth with a special for Edinburgh (Princes Street) on March 18, 1958. As reported on page 279, two Caledonian coaches have been repainted in their original livery to match the single-wheeler. [*W. J. V. Anderson*

the editor's news & views

TALKING OF TRAINS

The London ring route

IN recent weeks a great deal has been made in the press, national and technical, of the projected freight ring-route round London. It will be recalled from our paragraph on this topic in the January issue that the basis of this scheme is the development of the Cambridge–Bedford–Bletchley–Oxford line, with new connections to it from the bisecting trunk routes between London and the North, involving considerable engineering works in some cases, and the improvement of facilities onward to the Eastern Section of the Southern Region via Oxford, Didcot, Reading, Guildford, Redhill and Tonbridge; the latter include improved signalling between Oxford and Reading and between Guildford and Redhill, a possible burrowing junction at Reading, layout alterations at Guildford, and substantial works at Redhill both on the track and the station, whose down platform is to become an island, and where a new signalbox will be installed. New marshalling yards are being laid out at Swanbourne, west of Bletchley, and at Tonbridge, in the latter case on the site of the existing yard. The main aim of this scheme, of course, is to keep cross-country freight traffic out of London, with its cramped connecting routes, which from the railway operating viewpoint will make for far fewer chewed fingernails, and should undoubtedly accelerate transit between the North and Midlands and the South-West. What is not quite so apparent is the ring-route's long-term advantage, from the immensely important viewpoint of the trader, to traffic between North and South. An urgent need, as we have demonstrated in recent articles, is to accelerate freight transits, and it is difficult to see what contribution the ring-route will make to this end in the case of traffic, say, from the G.N. Section of the E.R. to the Central and Eastern Sections of the S.R. If such freight is to use the ring-route it will have to travel about twice the distance of its present paths through the capital or round the outskirts,

and the signs of proposed new yards suggest that this increased journey time will not be offset by any decrease in yard processing *en route*. One of the objections to the use of the present cross-London routes is that, to connect with many long-distance freight services to the provinces the inter-Regional transfer workings have at some places to fight for a path against the peak-hour suburban services. But the introduction of the new motive power and the general acceleration of freight traffic should surely mean that within a few years the departure of many overnight main line freights can be retarded without prejudicing next morning delivery at destination, and so make easier the operation on existing routes of the feeder freight services (which, when they are diesel-powered and fully brake-fitted, should themselves mate more easily with suburban passenger trains outside the peak hours). In the immediate future the ring-route may be of some benefit to north-south traffic, given operating methods that ignore Regional boundaries and consider the route from end to end, but one wonders whether there is not a danger of it becoming in some respects one of those attractive operating conveniences that will obstruct the primary aim of the swiftest possible service to the customer. One's own observations at least hint that there may be some margin for improved efficiency in the working of London's lateral freight routes that has yet to be fully explored.

●

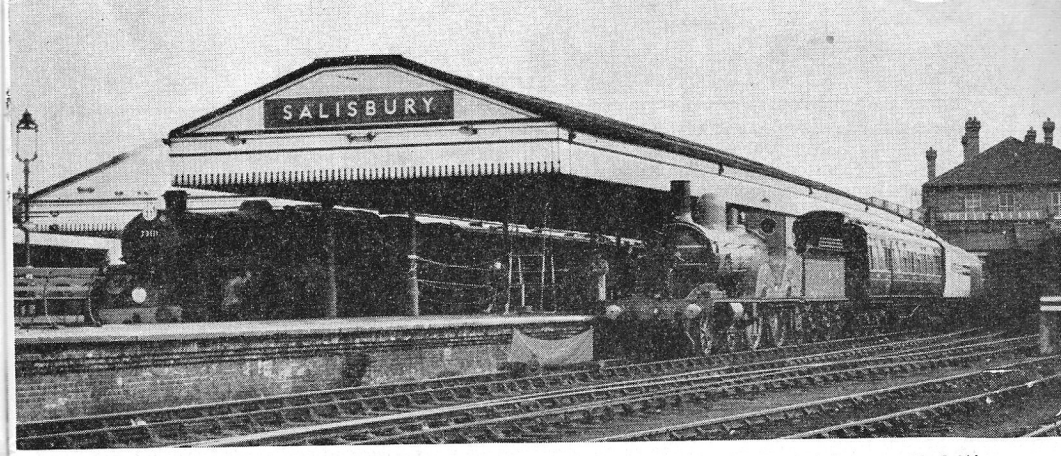
Faster L.M. freight

MORE evidence of the rapidity with which British Railways' fitted freight services are being expanded was given by the General Manager of the L.M.R., Mr. David Blee, in March. The current L.M. timetable shows 25 more than last summer's and 60 more than that of the previous winter; some 500 fitted freights, loading to 65 per cent of their capacity, are now run daily by the L.M.R. – but that is still less than 7 per cent of the Region's whole daily haul. On this Region, too, the punctuality of fitted freights is improving, as witness the 61.9 per cent of express and semi-express services that arrived within 30 min. of booked time in the hard weather conditions of the four weeks ended January 25 last. Among forthcoming freight handling improvements on his Region Mr. Blee mentioned that a new mechanised central marshalling yard is to be laid down at Carlisle to replace the eight in operation at present. Mr. Blee was speaking at a press conference held to introduce a new L.M.R. handbook for traders that provides much useful information on the Region's freight facilities, from details of its principal express freight services to illustrated descriptions of the numerous types of wagon and container now on offer for special traffics.

●

The gloomy trend

MUCH more rapid development is needed to stem the nosedive of B.R. freight traffic, however. The latest statistics available at the time of writing, for the four weeks ended January 26, show a drop of nearly half a million tons, or 13.6 per cent, in the merchandise tonnage carried by British Railways compared with the same period in 1956 (the 1957 figures at this time of the year were artificially inflated by traffic diverted from the road because of the Suez fuel crisis), and the net ton miles of merchandise and livestock worked were down by 11.2 per cent. By comparison with the same period of 1949 the merchandise tonnage decline is a grim one of 1,419,000 tons, or nearly one-third. While there is no doubt that British Railways are developing more aggressive selling methods and working hard to develop container traffic in all sorts and sizes for merchandise traffic, speeding depot handling by mechanisation with cranes and other appliances, there has been no sign of development in what are loosely termed "roll on, roll off" methods that enable goods to be transferred from road to rail and vice versa without being bodily transferred from one vehicle to another. It is many months now since we were first informed that British Railways were examining the "piggy-back" methods in use elsewhere in Europe and very widely in the U.S.A. In most of these the method is simply that of providing flat trucks on which road lorries intact, or their trailers, are mounted bodily for long-distance haulage between railheads, where they are driven off and on to the rail vehicles; these might pose loading gauge problems here. But a scheme developed by the Chesapeake & Ohio R.R., which is an ingenious marriage of the Talgo idea and the "Ro-railer" of the 1930's, might be adaptable to our conditions. Where the road vehicle scores is in its ability to achieve door-to-door transit without intermediate handling. If British Railways can combine a similar service with its potentiality, using the new forms of traction and fully fitted freight trains, for much faster transits from railhead to railhead, then its competitive ability should be greatly enhanced. In the March issue we reported the reminder of Mr. C. P. Hopkins, General Manager of the Southern Region, that inspired improvisation has often led to achievements that might never have been realised had railwaymen sat down on their haunches to await the ideal equipment A



★ When the B.T.C.'s mobile "Transport Treasures" exhibition visited Salisbury recently, the preserved L. S. W. Adams 4-4-0 No. 563 was put on show with it. To the rear of the 4-4-0 in this picture is the preserved Midland-G. & S. W. Joint Stock twelve-wheel diner. On the left standard class "5" 4-6-0 No. 73111 leaves with a stopping train to Yeovil Junction. *[Ivo Peters*

recent case in point is the East Coast Route's "Car-Sleeper" innovation, which has spread like wildfire in this country and is now overselling its attractions on the Continent as well. One would like to see some inspired interim improvisation of "roll on, roll off" freight methods for merchandise, too, if still more prolonged and careful investigation of other countries' schemes is necessary to evolve painfully the ideal solution for British Railways.

●

More "Car-Sleepers"

A NEW "Car-Sleeper" service is being added to the British Railways schedules this summer. From May 4 to September 27 a thrice-weekly service will operate between Glasgow (St. Enoch) and Eastbourne, leaving Glasgow at 7.45 p.m., with Eastbourne arrival at 7.35 a.m. next day, and Eastbourne at 8.42 p.m., with Glasgow arrival at 9.38 a.m. the next day. The southbound workings will be on Sundays, Tuesdays and Thursdays, and the northbound on Mondays, Wednesdays and Saturdays. Fares for the return journey will be £16 10s. for car and driver, £6 for each extra passenger and £3 15s. for children. The other Car-Sleeper services involving Scotland this summer will again be those between King's Cross and Perth, Marylebone and St. Enoch, Glasgow, and York, Newcastle and Inverness; the Marylebone–Glasgow service has been increased from two to three journeys each way a week and will operate for a longer period, from May 5 to September 27. The N.E.R. will be initiating weekly or twice-weekly services between Newcastle, York and Dover, and between Newcastle, Sheffield (Midland) and Exeter (St. David's). The Western Region has added to its Paddington–St. Austell "Car-Tourist" train a Paddington–Newton Abbot service, which will run every weeknight until October 11. In the W.R. scheme the passenger does not travel on the same overnight train as his car, but by selected day trains, and cheaper fares are offered if the service is used in mid-week.

●

L. M. Shed Changes

A LARGE-SCALE re-arrangement of L.M. motive power districts was proposed with effect from March 31. It included certain changes which we have already reported, and also some new nomenclature for certain districts. The full list of changes, which we understand is still the subject of official debate, is as follows:

Motive power depots affected	*District to which transferred (showing new title where applicable)*	*New code*
Kirkby Stephen	Carlisle	12E
Barrow	*No change*	11A
Workington	Barrow	11B
Preston	Preston (*formerly Accrington*)	24K
Carnforth	Preston	24L
Patricroft	Manchester North (*formerly Newton Heath*)	26F
Trafford Park	Manchester South (*formerly Longsight*)	9E
Heaton Mersey	Manchester South	9F
Northwich	Lime Street (*formerly Edge Hill*)	8E
Springs Branch	Lime Street	8F
Sutton Oak	Lime Street	8G
Brunswick	Liverpool Central (*formerly Bank Hall*)	27F
Warrington Central	Liverpool Central	*Sub. to* 27F
Market Harborough	Leicester (*formerly Wellingboro'*)	15F
Seaton	Leicester	*Sub. to* 15F
Coalville	Leicester	15D
Willesden	London Western	*No change*
Kentish Town	London Midland	*No change*
Aylesbury	London Midland (*formerly Kentish Town*)	*Sub. to* 14D
Bedford	London Midland	14E

The engineer's viewpoint

RECENT articles have discussed the problems of budgeting for permanent way and other engineering work in the preparation of timetables from the operator's angle. In the last issue of the *British Transport Review* the matter was tackled from the engineer's viewpoint by Mr. J. A. Mayled, Assistant (Permanent Way) to the Chief Civil Engineer, L.M.R. Planning methods, he writes differ from Region to Region. On some Regions engineering work must be arranged so that no two restrictions have to be imposed less than a specified distance apart, while elsewhere the line is sectioned and a limit is placed merely on the number of concurrent restrictions within each section. On certain routes fewer restrictions are allowed in summer than in winter. So far as permanent way work is concerned, the Civil Engineering Department's planning begins at the level of the length ganger, who keeps his inspector closely advised of the condition of the length in his charge. From this advice the inspector prepares his recommendations for renewal, which are forwarded to the District Engineer; the latter makes his inspection of all sections proposed for attention and then forwards his suggestions to the Region's Chief Civil Engineer, who will in turn make his own inspection of the sites, to ensure that, comparing one District with another, the right priorities are accorded. The whole process from ganger to the top echelon takes about eighteen months and this means, since the programme of work for the following year is usually approved by the preceding August, that the work actually carried out at the end of a year may have been conceived on the site over 2½ years before. The permanent way programme is then married to schemes for other engineering works, such as bridge and drainage renewals, and the final result is discussed in detail with the Operating and Signal Engineering Departments, insofar as this concerns the imposition of speed restrictions and track occupation; such meetings are held regularly and well in advance of each phase of the year's programme. In addition to respect for the needs of the Operating Department to restrict interference with traffic to the minimum, the Engineer must have regard to the availability of manpower, equipment and materials, and to the priority of the job in the final arrangements that are made. Mr. Mayled discounts any suggestion that his department can make its proposals known further in advance than at present. It would, he says, mean that lengths of track would have to be selected for renewal as much as 3½ years ahead; even now the lapse of time between original conception and action means that unforeseen deteriorations of track occur, requiring either alterations to the original programme or the imposition of a speed restriction until the offending length can be dealt with in the following year. Mr. Mayled suggests that a more profitable approach to the problem of speed restrictions for engineering work is that of allowing the Engineer a longer period of absolute occupation of the track, which in many instances would be more than offset by greatly reduced duration of the restriction: and that a more realistic account of the restrictions likely, since their incidence is planned and agreed through the procedure of consultation between Operating and Engineering Departments, might be taken in the preparation of timetables.

●

New Bristol diesel depot

WORK will begin shortly on the construction of a new diesel maintenance depot at Marsh Junction, Bristol, on land between the Radstock branch and the Bristol relief line. A four-track depot with accommodation for four three-car multiple-units is to be erected, together with the necessary fuelling and servicing equipment. A new signalbox will be installed to replace the existing Marsh Junction cabin.

●

The Staines collision

ON August 9, 1957, the 12.24 p.m. Staines Central–Waterloo electric train, comprising portions from Windsor and Weybridge, started from Staines Central against a signal at danger and collided some 200 yards out with a light engine crossing its path from the up loop to the down main line. The engine was overturned and the leading end of the electric train extensively damaged, but casualties were slight. In his report, recently published, the Inspecting Officer of the Ministry of Transport & Civil Aviation places responsibility for the accident on the electric train's motorman, a man with a previously clear record of long service, who frankly admitted that he did not observe the signal before he started the train on receiving a hand signal from the station staff. The Inspecting Officer comments that the rules make it plain that the signal to start the train, whether it is given by the station staff or the guard, indicates only that station work has been finished and does not diminish in any way the driver's duty to make sure he has the road before he starts his train. The Inspecting Officer does not advocate any change in this rule, but he does consider that guards and station staff should, wherever practicable, wait until the starting signal has been cleared before giving the "right away", in view of its in-

evitable psychological influence on drivers, and that steps should be taken to improve conditions at stations – especially busy junctions – where guards and station staff have difficulty in sighting the starting signals. Staines Central, where the up platform is on a sharp left-hand curve, is a case in point, and the report suggests that a further repeater of the Up Inner Home signal – the platform starter – should be installed near the centre of the platform (there is already one at the Windsor end).

●

"Castles" in maroon

IT is now common knowledge that the Maunsell "Lord Nelson" 4-6-0 had at least some influence on the designs that were drawn up for the original L.M.S. "Royal Scot" 4-6-0, which had to be produced so hurriedly in 1927. What has not been divulged hitherto, we believe, is that the impression made by the Great Western 4-6-0 No. 5000 *Launceston Castle* during its trials on the West Coast main line of the L.M.S. in 1926 was so profound that, before resort was made to the "Royal Scot" design, approaches were made to Swindon for the loan of "Castle" drawings so that a close resemblance, to be known as the "Improved Castle", could be produced for the L.M.S.! The request was, however, refused by Swindon. This revelation appears in the first of an important series of articles on the work of Sir William Stanier by O. S. Nock, beginning in the April issue of our associated contemporary, *The Locomotive*.

●

"Pre-fab" L.M. stations

TO keep pace with main line electrification work, a new prefabricated station building design has been developed by the London Midland Region. Little or no repainting will be necessary, for the buildings should retain their pristine appearance permanently if occasionally washed down. As a first step the structures are to be used in the modernisation of eleven stations between Crewe and Manchester and seven between Crewe and Liverpool. Erection has already begun at East Didsbury, Heald Green and Burnage, near Manchester, and others will follow at Mauldeth Road, Wilmslow, Chelford, Holmes Chapel, Sandbach, Handforth, Sefton Park, Mossley Hill, Allerton, Runcorn, Acton Bridge, Hartford and Winsford. The new buildings are made from standardised components of steel, aluminium, wood, plastic and special compositions, produced in factories and assembled by numbers on site. The components can be adapted to varying shapes of building, and the system is particularly suitable for use in difficult site conditions. For example, sites on narrow embankments, where building up from a solid bottom would be extremely expensive, are easily catered for by the erection on columns of a reinforced concrete platform on which the station buildings are placed. A building of the new type, which is in every way a permanent structure, can be put up complete with all main services in two months; the structure itself, less drains, water and electricity, can be erected in three weeks. The scheme for the reconstruction and lengthening of platforms on the Mauldeth Road–Wilmslow section to take eight-car trains is now well forward. Platforms at Mauldeth Road, Burnage, East Didsbury and Gatley have been reconstructed in pre-cast concrete.

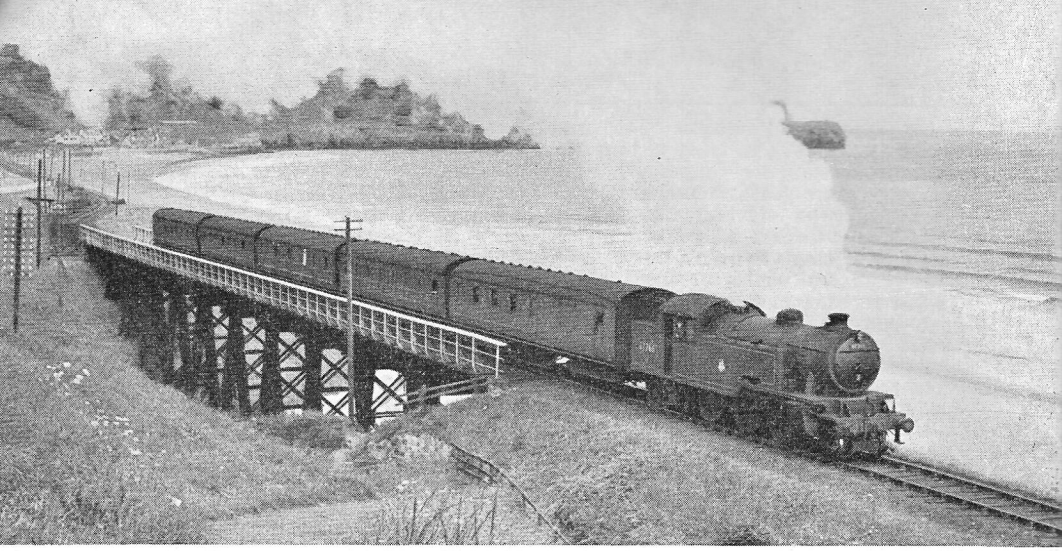
●

A new "Sheffield Pullman"

THE Eastern Region has announced that its 1958–9 winter timetables will feature a new King's Cross–Sheffield Pullman train via Retford, making two trips daily in each direction with some intermediate stops. Full working times have not yet been agreed, but it is probable that the first leg of the Pullman's day will begin with a 7.0 a.m. departure from Sheffield and arrival at King's Cross at about 10 a.m. The service is being planned on a basis of a less-than-three-hours timing between Sheffield and London, and the power will be a 2,000 h.p. diesel-electric locomotive. On the timing proposed the new Pullman will be ahead of anything now offered on the Midland, whose best London–Sheffield timing is one of 3 hr. 6 min., but it will need to be 2 hr. 50 min. to equal the all-time best ever offered by the Great Northern – and that as long ago as 1905 by the 6.10 p.m. from King's Cross; this schedule was equalled by the Great Central's "Sheffield Special". The short-lived "Sheffield and Manchester Pullman" of 1925 ran non-stop between King's Cross and Sheffield in 2 hr. 57 min.

East Coast improvements

THE uncertainty of the Aberdeen through coaches on the down "Flying Scotsman" making a tight connection with the 5.10 p.m. to the north from Edinburgh (Waverley), to which we drew attention last December, has been overcome by retarding the departure of the Aberdeen train to 5.25 p.m. from Edinburgh; the former 5.20 p.m. Edinburgh–Thornton now takes the 5.10 path out of Waverley and is extended to Dundee via Crail. The up "White Rose" has had all its intermediate stops excised between Doncaster and King's Cross, where it is now due at 7.22, and is followed up the main line by a new 4.40 p.m. from Doncaster, calling at Retford, Newark,



★ The Loftus–Whitby (West Cliff) section of the Scarborough–Middlesbrough route is to be closed on May 5 (see *below*). Here Class "L1" 2-6-4T No. 67766 skirts the shore between Sandsend and Whitby (West Cliff) with the 9.7 a.m. Middlesbrough–Whitby (Town) on July 16, 1957. [*M. Mensing*

Grantham, Peterborough and Huntingdon. Huntingdon, incidentally, has also won a new mid-morning non-stop service to London by the halting there of the 8.23 a.m. from Cleethorpes. Permanent way and other works at Shaftholme Junction (they include the provision of a new signalbox) have eased the curvature of the East Coast main line at this point and will permit the relaxation of the 60 m.p.h. speed limit to 100 m.p.h.

●

Branch Closures

THE long-threatened closure of the North-East coastal line between Loftus and Whitby (West Cliff) takes effect from May 5; the chief reason for this move is believed to be that maintenance of the sizeable bridges on this section, which include the well-known viaduct at Staithes, has become seriously uneconomic in relation to the traffic carried. To offset the loss of through trains between Middlesbrough and Whitby by the coastline an augmented service is being put on via Battersby, where the nuisance of reversal will be mitigated by the introduction of diesel railcars on the new schedules; diesel units will also come into operation between Middlesbrough and Loftus. It is also reported that British Railways have made application for withdrawal of the passenger services between Leamington Spa (Avenue) and Weedon. Not unexpectedly, a glare of publicity floodlit the last rites on the Southern Region "Bluebell Line" on March 16, and local reports estimated that 1,000 were aboard the final train, the 4.28 East Grinstead–Lewes; it was worked by the last locomotive to be built at Brighton works. Class "4" 2-6-4 tank No. 80154.

"T.I. Summer Annual"

LAST year we ventured to produce an additional, large-size issue of the magazine to satisfy the summer demand for extra railway reading, calling it the *Trains Illustrated Summer Annual.* It was not intended as a weighty contribution to the bookshelf (one reviewer seemed upset that anything should be produced which wasn't), but as reasonably light fare for the holiday season: and, *pace* the reviewer concerned, large numbers seemed to have welcomed that, encouraging us to repeat the dose this year – and, we hope, annually hereafter. In *Trains Illustrated Summer Annual No.* 2, now on sale at 5s. from your usual retailer, the accent is again on railways in relation to holidays, with stories of summer traffic and rail facilities in two popular areas, the Yorkshire and North Wales coasts, and an account of the work at Paddington on a summer Saturday. Particularly topical in connection with the Yorkshire coast article is a photo-feature on the Scarborough–Middlesbrough line and Staithes viaduct, in view of the closure of a section of this route that is reported in this issue. For amateurs of railways abroad, the *Annual* contains an entertaining account of a chequered trip on a South African mixed train and of a Spanish inclined plane railway. In the reminiscent vein, a Scotsman recalls his first firing experience on a "Jones Goods", tribute is paid to the G.E. 2-4-0s and there is a picture of Doncaster race traffic on a St. Leger day thirty years ago, while Cecil J. Allen recalls some of the interesting through coach workings that are now no more. Needless to say, a fine collection of illustrations supports the text to complete an excellent five shillings' worth.

A trio of high-born ladies

LIVING WITH L.M.S. LOCOMOTIVES — 4

by "45671"

IN my introductory article I touched on the appearance of the first of Mr. Stanier's "Princesses", No. 6200, in June 1933. Looking back to earlier days when Pacifics were just something one read about on the L.N.E.R., and the biggest passenger engines on the L.M.S. were the "Royal Scots" – massive engines, to be sure, particularly in their parallel-boiler form – one realises how rapidly locomotive size on the L.M.S. increased during the 1930's. *Princess Royal*'s 74 ft. of engine and tender, weighing nearly 157 tons, was a sizeable step from the 63 ft. and 128 tons of the "Scots".

Pacific "firsts" until 1935 do not seem to have been outstandingly successful. *The Great Bear* was not really superior to a "Star", the Raven Pacifics were a flop in design of boiler and front end, and the Gresley Pacifics were indifferent machines until they acquired their long-lap valves. The "Princesses" did a lot to break *that* sequence, once they got a reasonable degree of superheat, but even so I would not pretend that they are outstanding engines.

They were, of course, the first big project after Mr. Stanier's transfer from Swindon, and I feel that there is much more – naturally – of the Swindon tradition in them than in any other of his designs. So far as performance is concerned, they have excellent cylinders and motion, the riding is good (although No. 46205, the one engine which has only two sets of valve gear and rocking levers, has a reputation for roughness that is unusual) and the boiler is big enough to be fully up to the job, but like most Swindon-nurtured designs, it needs nursing to give good results. It likes that regular little-and-often attention from the fireman that Western men seem to provide automatically but which men brought up in the Midland or North Western tradition have to be coaxed to give. Some men can make them talk, while others can only produce a croak.

Then there are the mechanical snags from which the "Princesses" suffer, and which make them less effective traffic machines than the "Duchesses" and lower their availability. The front-end layout, with the outside cylinders over the trailing bogie wheels, has given a great deal of trouble due to loose cylinders, and all engines have now had abutment strips welded to the frames in an attempt to hold rigid the cylinder casting flanges; but even this has not been entirely successful. The original regulator arrangement in the superheater header – another Swindon import – was "heavy" to handle and lacked sensitivity (a serious failing on an engine needing every bit of its adhesion) and in addition the mortality amongst headers due to fractures has been considerable. As a result, all engines of the class are being given dome regulators.

Then the rear pony truck frames cause trouble with fractures, loose rivet attachment to the radial arm, and so on – defects also experienced with the "Duchesses", and which the cast steel trucks on Nos. 46256/7 are an attempt to overcome. The wheel centre castings also appear to have come from an unfortunate batch and spoke fractures are not infrequent.

It would certainly be of little interest to give details of any of my personal runs on these engines, which have invariably been on jobs well within their capacity. The sustained high-speed capabilities which they possess were never better demonstrated than by Driver Clarke with *Princess Elizabeth* on his test runs to Glasgow in November, 1936, when the six-hour schedule was cut by 7 min. in the down direction and by no less than 15¼ min. on the up run. But that standard so far exceeds what was, or is now, accomplished in day-to-day service, even for much shorter periods, that I have little doubt that Mr. Stanier saw clearly where improvement was needed to build a machine to run the "Coronation Scot" service, day in and day out, with enginemen of differing skills, variable coal and with a reserve of power for recovery of delays. He had to build a boiler and then adapt the "Princess" chassis to carry it.

Bigger grate, bigger firebox volume, bigger free gas area, bigger barrel, bigger superheater – all these were incorporated in that delightful boiler. It was pushed upward so that the front corners of the Belpaire firebox were up to the limit of the loading gauge, just enabling 6 ft. 9 in. wheels to be accommodated underneath it. (Incidentally, what is so magical about 6 ft. 9 in. wheels for express engines in this country?). The cylinder layout was altered back to a conventional one, but retaining the divided drive, thus enabling rocking levers to be fitted behind the cylinders and avoiding valve setting troubles due to thermal expansion. It also enabled the steam and exhaust passages to be better streamlined

internally. The result – the "Duchesses"; and under that generic title I lump together the whole 38 engines from 46220 to 46257, for apart from incidental modifications such as rocking grates, roller bearings and the like, they are all the same.

Coming into close contact with them just after the war, as I did, and seeing them handling the heaviest trains on the immediate post-war timings with effortless ease, one got no real impression of their capabilities. After all, 15 per cent cut-off and the first valve of the regulator are no indication of what an engine can do when it is opened out. There had, of course, been the pre-war experience, culminating in *Duchess of Abercorn*'s famous test run from Crewe to Glasgow and back in February, 1939 with a 604-ton train on the accelerated "Royal Scot" timings, which resulted in the standardisation of the double blastpipe and chimney. This was probably a test as much of the continuous input of the fireman as of the output of the engine. So much master of the job was the "Duchess" that she recovered 5 min. 40 sec. from Carnforth to Shap Summit and 2 min. 30 sec. from Gretna to Beattock Summit on the outward trip, and 5 min. 5 sec. from Motherwell to Beattock Summit and 2 min. 45 sec. from Carlisle to Shap Summit when returning with this enormous train. Northbound speeds were approximately 41 m.p.h. breasting Grayrigg, 31 over Shap and 30 at Beattock

Above: "Duchess" Pacific No. 46235 *City of Birmingham* heads into the night with the Perth–Euston sleeper on a May evening in 1955. Photographed at Forteviot. [*W. J. V. Anderson*

Left: On a frosty January evening "Britannia" Pacific No. 70016 *Ariel* pauses at Badminton with a South Wales–Paddington express. [*G. F. Heiron*

Summit, with pressure held in the 240–250 lb. range all the time.

It is not generally realised, however, that a fortnight before that memorable trip, a similar test had been made with the same engine, which was then equipped with the formerly standard single blastpipe. This was anything but the success of the double-blastpipe run. Difficulty had been experienced in maintaining full pressure at really high rates of working, and between Carlisle and Beattock over 9 min. had been dropped due to low boiler pressure, partly as a result of mismanagement by the fireman but partly because the front-end limit of draught imposed by the single blastpipe had been reached. It is probably fair comment that had the single blastpipe been retained, some difficulty would be experienced to-day with the steaming of a "Duchess" on a train such as the 7.55 a.m. Euston–Liverpool.

What can one say of the "Duchesses"? They are superb riding engines, giving a carriage degree of comfort even when they are getting run down. Excellent steaming capabilities are assured, although they have that inevitable failing of all British wide-firebox engines in that the firing of the back corners is as awkward as possible. Why cannot British designers taper the grate much more towards the back, to something like 5 ft. wide, and give it that little extra length to compensate? Not only would it ease the fireman's job, but at the same time it would improve the layout of the front corners of the cab. The superheat temperature is not as high as on many smaller engines, despite the 40 superheater flues, because not enough gas gets through them as compared with what passes the small tubes, and undoubtedly the 5½ in. flues of the "Britannias" would help here. As it is, the steam temperature seldom gets above the 600-620 deg. level.

The "Duchesses" are as prone to slipping as any British Pacific, but that is a problem with many facets. So long as we stick to independently sprung axleboxes, without equalisation to give a proper three-point suspension, that will always be a feature of engines with front and rear carrying wheels – watch a 2-6-4 tank having the same trouble. The high tractive effort on a necessarily restricted adhesion weight helps to initiate slipping, and it is often difficult to check quickly because of the enormous volume of steam between the dome regula-

★ "Princess" Pacific No. 46206 *Princess Marie Louise* storms through Tebay with the 11.10 a.m. Birmingham–Glasgow on May 15, 1955. [*J. E. Wilkinson*

tor and the valves. The combination of large steam pipes, large superheaters and roomy steam chests means that, after the regulator is shut, there is still enough "uncontrolled" steam to turn the wheels about 1½ times at full cut-off and boiler pressure. This means that, with the serious drop in wheel-rail friction as soon as slipping commences, the engine can go into a "raceaway" slip before the driver can react and take preventive action. The only solution, apart from equalisation, is a multiple-valve regulator on the superheat side of the header, which British locomotive engineers have so far shied away from.

Just after the war, with shed staff at a low ebb in numbers and supervision, when the rocking grate, hopper ashpan and self-cleaning smokebox seemed to offer great advantages, a number of "Duchesses" so equipped ran into trouble with partial collapse of the rocking grate, particularly at the sides and front corners. After days of examination over the ashpits at Camden and Crewe North, and in fireboxes and ashpans, the trouble was identified as a build-up of ash and clinker on the sloping surfaces of the pan, aided and abetted by a sprinkler system which was also fitted in the ashpan sides. With the rear-end frame construction used on these engines, this defect was inherent, due to the inability to make the ashpan sides slope sufficiently to be self-cleaning. As a palliative, access doors were fitted at the front corners of the ashpans to enable the danger spots to be raked down, but the back end of the last two engines was completely redesigned, using a single slab frame each side and a new ashpan with full-length side access doors.

Incidentally, when the B.R. standard 2-10-0s were being designed, I predicted exactly the same trouble, because the ashpan sides were even flatter than on the "Duchesses", but the suggestion was pooh-poohed. Sure enough, trouble soon arrived – and access doors have had to be provided!

My own *piéce de résistance* with a "Duchess" was recorded on the Friday before Whitsun, 1953, on the down "Mid-day Scot". No. 46255 *City of Hereford* came on to a train of 16 bogies at Crewe. There had been a relief train ahead, hauled by a "Royal Scot", which had left after the 4.24 p.m. departure time of the regular train, and when we got the "rightaway" we

were no less than 17 min. late. The Crewe North driver – whose name I have regrettably mislaid – decided to play along gently and see how the relief was running before setting about the recovery of the arrears, and his wisdom soon became apparent when signals at Acton Grange Junction and Golborne Junction brought us down to 25 and 15 m.p.h. We rolled through Preston, having just kept sectional time, only to be checked again just beyond. We then crawled away to Garstang, sighting distants that cleared as we approached them, and there, when things appeared more clear, got moving normally again, only to be pulled down to walking pace approaching Carnforth; for a Manchester-Windermere train had been sandwiched between the relief train and ourselves. There was an easy recovery from this check, but then we ran into another at Oxenholme, where we eased through the platform up to the starter, no less than 33 min. late, at a speed that a driver going to sign off could have bettered.

Then we got the road, with Grayrigg ahead from almost a standing start, and Table I sets out the running henceforward. Up went the regulator handle to the full-open stop, the reversing gear was set to 28 per cent, and with 225 lb. on the clock *City of Hereford* heaved her long train into the curves of Grayrigg bank with a sharp and exultant bark. (She was blowing off at 235 lb., unfortunately.) She was not pushed unduly up the bank, in view of what had gone before, but speed was worked up to 36 and sustained there on the 1 in 106 to Grayrigg station. Once over the top, acceleration was rapid and we swept over Dillicar troughs, picking up 1,750 gallons in the process, at 68 m.p.h.

Now, with the fells looming in the front cab windows, our driver showed his enginemanship to the full. No fall in speed took place before he was "dropping her down"; as we ran up to Tebay station the cut-off was put to 25 per cent, and then back by successive stages until, as we went by Scout Green at

TABLE I

B.R. (L.M. & SCOTTISH REGIONS) – CREWE – CARSTAIRS

Engine: Class 8P 4-6-2 No. 46255 *City of Hereford*.
Load: To Carlisle – 16 bogies, 510 tons tare, 545 tons gross.
From Carlisle – 14 bogies, 447 tons tare, 480 tons gross.

Dist.		*Sched.*	*Actual Time*	*Speed*	*Regltr.*	*Cut off*
			m. s.			
0.0	CREWE	0	0 00	—	First Valve	45
2.8	*Coppenhall Junc.* ..	5	6 33	54	Full	25/20
8.8	*Winsford Junc.* ..	11	12 10	71	,,	16
11.9	Hartford		14 40	76/74	,,	20
16.3	*Weaver Junc.* ..	18	18 17	75/65	Shut/Full	25
22.1	*Acton Grange Junc.*..	25	24 06 *sigs.*	66	Shut	—
24.1	WARRINGTON ..	27	26 48 *sigs. p.w.s.*	25	First valve	25
35.9	WIGAN	47	49 01 *p.w.s.*	34		
45.5	*Euxton Junc.* ..	62	63 05	67		
51.0	PRESTON	69	69 13 *sigs.*	70/21		
52.3	*Oxheys*	72	72 49 *sigs.*	21	First valve	35
60.5	Garstang	80	86 14	54	Full	15/20
66.3	Bay Horse		92 21	68	,,	20
72.0	LANCASTER ..	91	97 46	67/60	½	25
75.1	Hest Bank		100 28 *sigs.*	73	,,	25
78.2	CARNFORTH ..	97	105 56	5	Full	25
82.7	Burton & Holme ..		115 13	28/47	,,	15
85.5	Milnthorpe ..		118 23	56	,,	15
87.4	*Hincaster Junc.* ..		120 39 *sigs.*	45/47	,,	20
91.1	OXENHOLME ..	112	128 34	2	Full	28/32
96.3	*Lambrigg Crossing* ..		139 56	36	,,	32
98.2	Grayrigg		143 04	36	,,	25
104.1	TEBAY	129	149 15	68	,,	20/25
	Scout Green ..		152 27	49	,,	30/35
109.5	*Shap Summit* ..	139	156 42	31	,,	40/70
111.7	Shap		159 29	—	Shut	—
120.0	*Eden Valley Junc.* ..		166 28	81	,,	—
123.2	PENRITH	152	169 23	53	Full	30/25
128.1	*Plumpton*	157	174 07	77	First valve	25
133.7	*Southwaite*		178 35	80	Shut	—
139.7	*Carlisle No. 13* ..		183 14	—	—	—
141.1	CARLISLE .. arr.	**171**	**186 14**			
0.0	,, .. dep.	0	0 00	—	½	35/30
2.0	*Kingmoor*		4 43	48	Full	25
4.1	Rockcliffe		8 03	64	,,	20/18
8.6	GRETNA	11	10 01	75	,,	20
12.9	Kirkpatrick ..		13 58	66	,,	25
16.6	Kirtlebridge ..		17 19	63/74	,,	20/25
20.0	Ecclefechan		20 06	69	,,	25
25.7	LOCKERBIE ..	29	24 57	66/73	½	25
28.6	Nethercleugh ..		27 19	75	Full	20
31.6	Dinwoodie ..		29 48	72	,,	22
34.4	Wamphray ..		32 07	77	,,	20
39.6	BEATTOCK ..	42	37 30	—	Shut	—
	,, ...		42 58	—	Full	25/35
45.4	*Greskine*		52 55 *p.w.s*	43 18	,, ,,	40 35
49.6	*Beattock Summit* ..	62	61 19	36	First valve	28
55.2	Crawford		66 36 *p.w.s.*	64	Shut	—
57.7	Abington		69 28	22	Full	20
63.1	Lamington		75 35	69	,,	23/25
66.8	SYMINGTON ..	78	78 45	67	Shut	—
	Leggatfoot		81 30	72/65	½	25
73.1	*Strawfrank Junc.* ..		84 46 *sigs.*	74/25	Shut	—
73.5	CARSTAIRS ..	**86**	**86 05**	—	—	—

Water Consumption: 9300 galls. = 43.4 galls./mile.

49 m.p.h., *City of Hereford* was talking to the tune of 35 per cent. The guard was barely past when she was put down to 40 per cent, and then to 50 per cent. The Westmorland sheep scurried away at the din, hardened creatures though they must be! Pressure was dropping slightly, but the water level was being well held, and we were all set to clear the top unaltered, when she slipped.

The driver was waiting for just that, and the regulator was quickly shut: when the slip stopped, he dropped her down to 60 per cent, and opened the regulator, gingerly at first, then further as she held her feet, and finally up to the full-open position again. For the last quarter-mile up to the summit, as a final gesture of defiance, the driver dropped her down into full gear. *City of Hereford* had got the lot, and was keeping her feet! We blasted our way past Shap Summit box at 31 m.p.h., in a deafening noise that rattled the signalbox windows, having almost kept sectional time from Oxenholme, despite the crawling start. A smart run down to Carlisle brought us in just under 32 min. late.

The station staff at Carlisle took no less than 10½ min. to detach two rear coaches and get us ready to depart again, instead of the 7 min. allowed (Is it ever different? Not in my experience!) and then with tank replenished we started the real business of time recovery. Full regulator and cut-offs between 20 and 25 per cent were used, and we began to see what a "Duchess" can do when opened out. After 75 over Floriston troughs (which were empty, under repair) we kept up a speed between 63 and 77 over this undulating but generally rising road, and romped into Beattock station, 39.7 miles, in exactly 37½ min., for 800 gallons of water. We had used 1,700 gallons from Carlisle, a fairly high figure at 42.8 gallons per mile, but *City of Hereford* had certainly been giving value for money.

started off easily, with full regulator and 25 per cent cut-off, then lengthened to 35 and finally to 40 per cent. As we slogged up Beattock between the pinewoods, the traffic on the road alongside overtook us for a while; then the beat quickened and we began to overtake things ourselves until by Greskine Siding we were up to 43 m.p.h.

TABLE II

B.R. (L.M. REGION) – STOCKPORT – EUSTON

Locomotive: Class 7 MT 4-6-2 No. 70034 *Thomas Hardy*.
Load: 14 bogies, 443 tons tare, 470 tons gross.

Dist.		*Sched.*	*Actual Time*	*Speed*	*Regltr.*	*Cut off*
			m. s.			
0.0	STOCKPORT ..	0	0 00	—	Full	40/35/30
2.3	Cheadle Hulme ..	4	4 58	43/34	,,	35
3.9	Bramhall		7 27	41	,,	30
7.4	Adlington		12 16	45/47	,,	25
9.3	Prestbury		14 42	45/50	,,	30
11.7	MACCLESFIELD .. (H. RD.)	**18**	**18 19**	—	Shut	—
0.0	,, dep.	0	0 00	—	Full	40/35
2.5	*Macclesfield Moss* ..		5 37	31	,,	30/25
4.7	North Rode ..	8	8 40	59	First valve	30/20
8.1	Congleton ..		12 06	63/57	Shut	—
13.7	Kidsgrove	18	17 37	56/58	First valve	30/20
17.0	Longport		21 38	53/59	Shut	—
18.8	Etruria	24	23 27	—		
19.9	STOKE	**27**	**25 53**	—		
0.0	,, .. dep.	0	0 00	—	Full	35/25
2.9	Trentham		5 43	48	,,	22/20
7.1	Stone	9	10 09	59	First valve	16
11.7	*Sandon*		14 15	70	,,	16
18.8	Colwich	22	21 37	30	Full	40/30
21.6	RUGELEY	26	25 27	53	,,	22/20
24.9	Armitage		28 52	60	,,	20
29.7	LICHFIELD.. ..	34	33 37	58/64	,,	18
35.9	TAMWORTH ..	40	39 05	70/64	,,	15
39.4	Polesworth.. ..		42 39	60	,,	15
43.8	Atherstone.. ..		47 05	49	,,	15
48.8	NUNEATON ..	54	52 49	58	,,	20
54.8	Shilton		59 15	51/61	,,	20
57.9	Brinklow		62 27	61	,,	15
			sigs.			
63.3	RUGBY	**71**	**69 25**	—	—	
0.0	,, .. dep.	0	0 00	—	Full	40/32
	Kilsby Tunnel ..		7 40	46	,,	25
			Slipping,	eased		
7.3	Welton		12 04	52	,,	25/18
12.8	Weedon		17 17	72	,,	15
19.7	BLISWORTH ..	23	23 45	61	,,	18
22.7	Roade	26	26 57	54	,,	15
30.1	Wolverton ..		33 53	72/70	,,	18
35.9	BLETCHLEY ..	39	39 28	61/64	,,	20
42.4	Leighton Buzzard		45 52	60/61	,,	20
46.4	Cheddington ..		49 59	57	,,	20
50.9	TRING	56	55 13	49	,,	15
58.1	Boxmoor		62 52	64	,,	15
61.6	Kings Langley ..		66 05	68	Shut	—
65.1	WATFORD ..	69	69 30	58	Full	22
66.6	Bushey		71 02	56	,,	22/15
71.2	Harrow		75 44	65	,,	15
74.5	Wembley		78 37	71	Shut	—
			p.w.s.			
77.2	WILLESDEN ..	80	82 05	—	—	
			sigs.			
82.5	EUSTON .. arr.	**89**	**95 05**	—		

Net time — Rugby to Euston, 89½ mins.
Water consumption: 4,600 galls. = 25.3 g.p.m.

After a considerable delay a Caledonian 0-4-4 tank buffered up to our tail, but I don't think he was quite prepared for the speeds he was expected to keep up with. We (on 1 in 74!). Unfortunately there was a 15 m.p.h. bridge renewal slack at Harthope, but we recovered from this to 36 by the Summit, passed in 18 min. 21 sec. against

CHARLES C. MACRAE
327
No 32

the pass-to-pass allowance of 20 min. Restrained running brought us into Carstairs in 43 min. 7 sec. from Beattock and 86 min. 5 sec. from Carlisle, or exactly as booked, in spite of almost 5½ minutes' standing at Beattock, a p.w. slack at Abington and signals approaching Carstairs. Net running time, I estimate, was 74 min. from Carlisle, or almost exactly a mile a minute.

Finally I want to say a few words about the other main Pacific design working on the L.M. Region, the B.R. standard "Britannias", which will perhaps supplement "Balmore's" remarks in the 1958 *Trains Annual*. Having been "in" on the design of these engines from the very early days, I saw a great deal of ideas which were never incorporated in them – in some cases perhaps as well, in others to their detriment. Mr. E. S. Cox, the officer responsible to Mr. Riddles for the design of the B.R. engines, was aiming at a machine simple and accessible in the American tradition, rugged and reliable for high mileages between shopping, and with a boiler fully master of the job. He realised full well – and subsequent testing work has confirmed his views – that a locomotive is not necessarily efficient *as a locomotive* (i.e. as a device for converting thermal energy into *drawbar horsepower*) because it is working at 15 per cent cut-off: and that in terms of coal burnt for a given amount of work, 25 per cent cut-off in smaller cylinders is just as efficient as 15 per cent in larger ones, because of the disproportionate loss of energy in the locomotive mechanism at short cut-offs. He had a healthy respect too, for the old Ivatt large-boilered Atlantics, which took that theory to extremes. It was, therefore, not entirely surprising that he took a slightly shortened "Duchess" boiler and put it on a chassis that was to have the riding qualities of a "Merchant Navy" and the simplicity and accessibility of a Class "5".

But he was thinking beyond that; because of the incidence of frame fractures on certain ex-L.M.S. designs (and those of other railways!) Mr. Cox's thoughts were on his 1946 visit to the U.S.A. Designs were therefore developed side-by-side for a bar-frame chassis with side members cut from slab, and for one with cast steel side-members complete with all brackets, etc., the nearest thing to the excellent "Commonwealth" one-piece cast steel bed which could be produced at that time in England. That scheme was killed by timidity on the part of the works staff, who complained about the difficulties of handling and machining such units. They said that they could produce a good frame much more cheaply, and eventually the Bulleid type of plate frame was adopted, with welded-in horn inserts. With the manipulators, cost of welding, difficulties of horn machining, straightening, and other work involved, one wonders what was saved in cost, convenience, and subsequent freedom from repair. I have my own views, and they will take some changing!

My own experience with the "Britannias" has been limited to the Western Division, and has been entirely favourable. There are footplate men who hold other views, but they still seem to get results with them. In the summer of 1954 I had occasion to visit Holyhead on business, and the five "Britannias" had been received there only a few weeks before. I rode back to Crewe on the day "Irish Mail" on No. 70046, with a full train of 15 bogies, about 470 tons, and as we stood at the platform end, looked down on by the masts of *Cambria* just arrived from Dun Laoghaire, I asked the driver: "Ever had one of these engines before?" "Only once up to now," he replied. "How did you find her?" "Oh, quite well, but I thought she seemed a bit sluggish getting away." So I outlined the big boiler theory, and said: "If you find she's like that, drop her down a bit more and flog her – the boiler will be able to cope with it."

He took me very literally! We blasted up that horrible 1 in 85 off the platform end and past the shed in full gear and most of the regulator, and then once over the top he proceeded to pull her up – oh, so slowly – and by Rhosneigr she was still on about 30 per cent, doing the best part of 70. We stormed up past Ty Croes and came down Bodorgan bank to touch 80 in the dip. He seemed satisfied with that, and once clear of Bangor took things rather more easily, using full regulator with 22 per cent cut-off to keep this heavy train rolling at a steady 72-75 m.p.h. all the way to Mold Junction (apart from the Llandudno Junction slack and the Llysfaen hump, of course). Boiler pressure was rock steady at 240 lb., half a glass of water was kept steady by intermittent use of the exhaust injector at less than half its range, and a thin fire, fully 6 in. below the bottom of the firehole door, was maintained blinding white by little-and-often firing. We were into Chester 3 min. before time, despite a severe signal check outside which almost brought us to a stand on the curve.

The Longsight enginemen, I believe, are about evenly divided between "Britannia"-lovers and "Scot"-preference men. I watched a sound piece of handling by a Longsight crew one afternoon on the (then) 2.20 Manchester London Road–Euston, with No. 70034 on 14 bogies from Stockport,

OUR COLOUR PLATE
is from a painting by V. K. Welch and depicts L.B.S.C. 4-6-4T No. 327 *Charles C. Macrae* **on the "Southern Belle" Pullman train in 1922.**

which was the nearest thing to strict point-to-point time observance on this line that I have ever seen, and which I have set out in Table II. As will be seen, the speeds to achieve it were not high, and the engine was working at a fairly constant rate all the time, keeping within a minute of booked passing times. The water consumption from Stockport to Euston was no more than 25.3 gallons per mile, equivalent to about 33 lb. of coal a mile, and this does serve to illustrate that spectacular performances are only put up at a considerable cost in fuel. This run took place at a time when bitter complaints were being made of men having to go back into the bunker at Rugby – in either direction – to get coal down because it would not feed forward. We only used about 3½ tons on the whole trip, and never had the bunker doors open once.

Day-trip to Grimsby

PART ONE

by G. FREEMAN ALLEN

"I trust that before long you will send one of your staff to Grimsby," wrote a Lincolnshire reader some months back. ". . . I realise that compared with Crewe, Doncaster and dozens of other centres, Grimsby is only 'small fry', but there is always something interesting to be seen." Especially, it appeared, at 7 a.m. For that was the uncivilised hour at which, taking steps to satisfy our correspondent's wish, I was bidden to present myself at the docks if I wanted to see how the Eastern Region handles a day's loading of Grimsby's most important traffic—fish, of course—from receipt to dispatch.

Even so, my arrival at the docks was hours after the day's work had begun. Since midnight 22 trawlers had sailed into the Fish Dock with some 850 tons of fish, nearly all of which had been unloaded and sorted while I was making the most of an attenuated night's sleep. Altogether about 300 trawlers are based on Grimsby, but as each one spends anything from 10 days to three weeks out on the fishing grounds, only a small proportion dock with their catches on any one day.

The fish docks at Grimsby are shaped basically like an inverted "V," the apex being the entrance gate from the Humber. The major work of receiving and dispatching incoming fish occupies the left-hand arm of the inverted "V," which is pinched in to form a dock gate at its halfway point and to divide the area into No. 1 Fish Dock (the upper part, where the North Sea and inshore trawlers are berthed) and No. 2 Fish Dock (the lower part, which accommodates some North Sea vessels and the bigger Deep and Middle Water fishing ships). The whole of the quayside of these two adjoining docks is roofed over, forming a substantial acreage of shed in which the job of sorting and icing the fish can be carried out. On the landward side the quays become platforms served by railways lines, or against which road vehicles can be backed for loading.

Breakfastless, I felt I never wanted to look another fish in the eye after a quarter-of-an-hour on the Fish Dock that morning. Where sorting of catches had been finished, row upon row of huge trays piled high with the slimy things covered the quay ; and where they didn't, the stone flags were puddled or streaming with greasy water stained with undoubtedly uneatable and probably unmentionable clippings of their anatomy. It was plain why almost everyone was clumping about their business in stout clogs.

By about 7.30 a.m. the clogs were clacking like castanets up to the South Market corner of No. 2 Dock, where overalled men were clustering round tubs holding the mammoth catch of one of the Icelandic trawlers. Here and there earnest-looking types stepped forward from the crowd to bend low and eye the unresponsive fish more closely than I would have cared to do that early ; others, more cynical, were lifting up the top layer of corpses to see if the best goods had been put in the window to camouflage poor quality under the counter. These were the buyers of the 500 or so merchants who do business with the Grimsby trawlermen. Above the general hubbub of clogs, chatter, rumbling barrows and seagulls rose the stentorian bawling of two obvious ex-R.S.M.'s turned trawlermen's agents, announcing good supplies of fresh cod further down the quayside. The day's sales were about to begin.

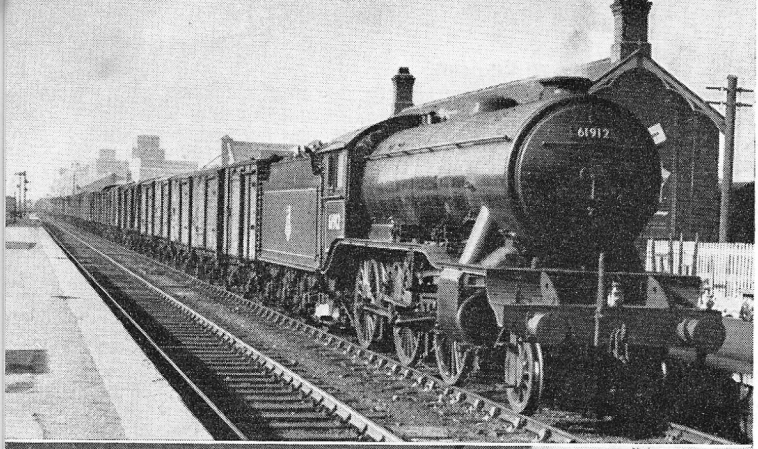
A fish auction is one of those conducted in a loud, top-speed and (to the layman) quite meaningless gabble by the auctioneer,

SCOTTISH PUGS

Left upper: Class "2F" 0-6-0T No. 56157 ambles through Cartsdyke, Greenock, with a transfer trip on June 6, 1957. [*P. J. Shoesmith*

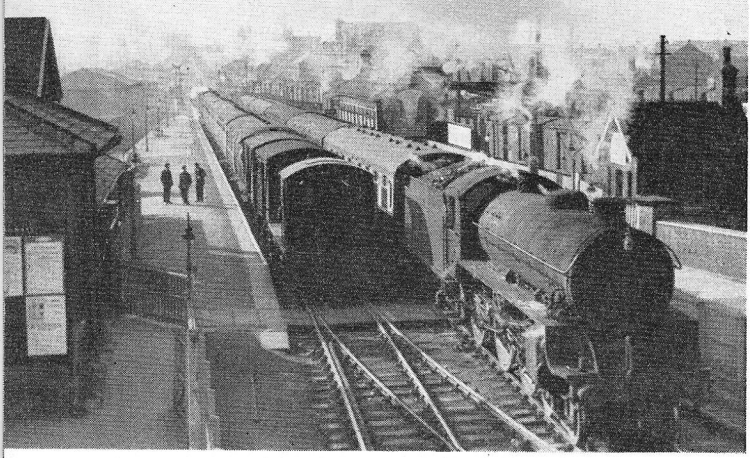
Left lower: Class "J88" 0-6-0T No. 68334 approaches Markinch, north of Thornton Junction, with a freight from the Leslie branch in June, 1957. [*W. J. V. Anderson*

GRIMSBY DOCKS STATION



★ Class "K3" 2-6-0 No. 61912 passes Grimsby Docks station with fish empties for New Clee on May 3, 1955.

★ Class "B1" 4-6-0 No. 61314 pulls out of Grimsby Docks station and past Cleethorpes Road Junction with the 7.30 a.m. Sheffield–(Victoria)–Cleethorpes on October 13, 1956.



★ Grimsby Docks station. On the down side the 7.30 a.m. from Sheffield is leaving for Cleethorpes and on the up side one of the Fish Docks shunters is attaching fish wagons to the 10 18 a.m. train for Sheffield – on October 13, 1956 [*R. E. Vincent*

and at which the lift of a handkerchief to your nose may find you sold with enough fish to feed a brigade. The first auction I watched was typical of the others which quickly followed down the length of the quay ; swiftly the day's catch was disposed of, and then the work began of preparing it for dispatch by rail—and, I regret to say, by road also.

In recent years some of the large wholesalers, such as the Ross group, have built up their own fleets of lorries which convey their purchases direct from Grimsby Docks to a depot elsewhere in the country for distribution. In other cases some merchants have tended to use road transport for their large consignments to the bigger towns and cities, leaving to the railways the uneconomic small consignments of the odd box or two to wayside stations up and down the country. The position is now such that Sir Reginald Wilson, chairman of the Eastern Area Board, not long ago had to declare bluntly that Grimsby docks, especially the fish docks, were a grave financial liability to the Commission ; the railway services must be better supported if they were to continue. On a busy day in the fish docks, at the time he was speaking, 25 per cent of 320 railway wagons had less than one ton in them, and 10 per cent less than half a ton, while nearly half the wagons had more than one but less than two tons. But the Eastern Region is fighting back. In an effort to recapture the large loads they offer a rebate of 40 per cent to merchants who send all their fish to eight traffic centres by rail, and 25 per cent to firms which use rail exclusively for their fish traffic to 100 other towns and cities.

This strong competition, coupled with the perishability of the traffic, means that British Railways must put on a very slick service, so that they can claim a reliable delivery to all parts of the country in time for sale at markets on the morning after landing at Grimsby. The organisation at Grimsby is extremely swift and efficient. Like their colleagues at other goods depots up and down the country, the Fish Dock agent and his staff at Grimsby base a lot of their work on intelligent anticipation. They know which days of the week and seasons of the year are likely to produce the heaviest traffic and to where, and make their demands to Wagon Control for stock accordingly.

As we saw in an article in the May, 1955 issue, however, those demands must be presented the day before the wagons are required. Moreover, some 4,000 stations from the far west to the distant north are covered by eight express fish trains daily from Grimsby, and by the odd wagons which are attached to certain passenger trains ; the railway staff must, in many cases, be in position to guess with accuracy whether the York wagon, for example, will have a full load on its own account next day, or whether there will be room in it as well for fish for Malton, Scarborough and Whitby. They must be prepared, too, for a change in the weather, for if conditions are bad a merchant who normally uses the road may decide that the railway is safer if he is going to make the markets in time.

On the average, the Eastern Region dispatches 330 wagons from the Fish Dock on a Monday and 250 on the other weekdays. On the day of my visit, a Tuesday, not one of the busiest of the week, the heaviest train, the 1.4 p.m. to Banbury, was to be a 35-wagon load, and most of the others from 25-30 vehicles, though there would be only 16 on the 4.48 p.m. to Nottingham. The composition of each train had been planned the day before, in the light of the experience of the men on the spot and their gauging of the likely traffic, and the locomotive department at Immingham had been advised so that motive power adequate to maintain schedules with the loads envisaged would be turned out.

Nearby, on the Immingham line beyond the seaward end of the docks, are New Clee Yards, to which the empty fish wagons are returned by a number of daily services, such as the 4 a.m. (MSX, 5 a.m. MO) from Woodford and the 1.15 a.m. from King's Cross. New Clee Yards sort the arrivals, sending those containing empty fish boxes to be unloaded in the appropriate corner of the docks, and then prepare the day's trains according to the Fish Agent's requirements. Soon after breakfast, the first of them, the 1.4 p.m., is being moved into position in the docks by one of the Immingham "J94" steam 0-6-0 tanks or 200 h.p. "DJ12" diesel shunters which do shunting duty in the docks (I saw nothing but diesels in the Fish Docks the day I was there, but I was told there the "J94s" do operate there, as well as in the Royal and Alexandra docks, as the diesels are not always happy with some of the heavier tasks on the curving dock tracks).

The railway division of the quays is on a totally different basis to their arrangement for the berthing of trawlers. A merchant may buy a catch at the top of No. 1 Fish Dock and find that he will have to load into a wagon right at the other end of the estate, in the South Market section of No. 2 Fish Dock, even though wagons stand with doors invitingly open at the platform of the quay on which he bought it. From the railway point of view, the quayside lines are divided into nine sections numbered from 1 upwards. These are the key numbers to the geographical areas served by the various fish trains or independent wagon workings

out of the docks. For example, Section 1 covers a wide area of the North Country, from Stoke to Chester, Blackpool, Morecambe and across to Newcastle, served by the 5.13 p.m. to Ashton Moss, the wagons for which are always marshalled at the top end of the No. 1 dock quayside.

One or other of the key numbers also provides the first digit of the three-figure numbers allocated to each of the 4,000 odd stations served from Grimsby docks. The merchant with some boxes of fish for, say, Paignton, in Devon, turns up a handy little reference book circulated in the docks by British Railways. There he finds every station listed in alphabetical order and keyed with a number ; and here's the entry he's looking for : "B PAIGNTON 215y."

The prefix letter appears against only a proportion of stations and indicates that an early service, as well as one by the afternoon fish trains, is available. Some towns marked "A" can be reached by vans attached to passenger trains. For example, stations along the route to Sheffield can get their fish early on a van that is tacked on to the rear of the 11.29 a.m. from Cleethorpes at Grimsby Docks station, while another for the Lincoln line is backed on to the following 11.43 a.m. from Cleethorpes ; the 2.22 p.m. Cleethorpes-Sheffield picks up vans for as far afield as Aberystwyth and Holyhead, which travel on from Sheffield to Manchester (London Road) and from there reach the Welsh routes via Chester. Since the war, however, the policy has been to cut down on the attachment of vans to passenger trains as far as possible, for the sake of the latter's punctuality ; latterly, too, the introduction of diesel multiple-units has restricted the attachment of additional loads to passenger workings.

But to return to our merchant with the fish for Paignton. He finds the early "B" train, which, the book of words tells him, will be lined up at the South Market quay. There is no need for him to ask the railway staff which is the Torquay van, for as soon as the stock was marshalled into position each van was pasted up with a printed label corresponding to the station numbers in his book. Finding the "215" van, he hands over his boxes of fish, suitably labelled, to the railway staff for checking, noting for invoicing, and loading.

It is quite possible there will be no van labelled "215y," nor a "215x," but only a "215z," for "Newton Abbot and Tranships." Normally, van "215z" serves Newton Abbot and stations and branches down the Plymouth line as far as Plympton (fish for the branches being transferred to the branch trains at Totnes and Brent), but if the Fish Dock staff have estimated the previous day that the volume of traffic for South Devon can adequately be served by fewer than three wagons, neither "215x" (for stations to Torquay) nor "215y" (for the other Kingswear branch stations) may run, and "215z" will carry all the South Devon fish ; Kingswear branch consignments will be off-loaded at Newton Abbot and sent forward on the first available passenger train when they arrive on one of the early morning fish trains from Marston Sidings, Swindon.

There are many similar arrangements enabling the railway staff to economise in wagon demands, some covering a very large area ; for example, if one only of vans 104, 104v, 104w, 104x and 104y is considered necessary when it leaves Grimsby, it may contain boxes for stations ranging from York to Scarborough and up to Edinburgh, which will have to be sorted out at York. The wagon's loading label will advise the staff at York of the destinations of each item of its load. In any event, almost every van serves a number of adjacent stations, all of which have the same code number in the reference book.

The Grimsby staff are pretty unerring in their estimate of how far the following day's wagon requirements can be economised in this way, based on their long experience of traffic trends from day to day and season to season. Nevertheless they follow up their estimate by turning up early next day to feel the tone of the market; should this suggest that they have underestimated their requirements for any reason, there is always a "float" of stock on the premises from which they can draw at short notice.

(To be continued)

The Western Region Cross-Country diesels

THREE-CAR "Cross-Country"-type diesel multiple-units began their first public service on March 10, when they were introduced between Birmingham and South Wales on workings previously operated by steam or by the "Inter-City" diesel sets. Former steam services now filled by the "Cross-Country" units are the 8.5 a.m. Cardiff–Bristol and 10.22 a.m. back, and the 4.47 and 8.15 p.m. Cardiff–Birmingham (Snow Hill) and the 5.40 p.m. back; the new sets have replaced the earlier "Inter-City" units on the 12.10 and 8.15 p.m. Cardiff–Birmingham (Snow Hill) and the 12.25 and 8.30 p.m. back.

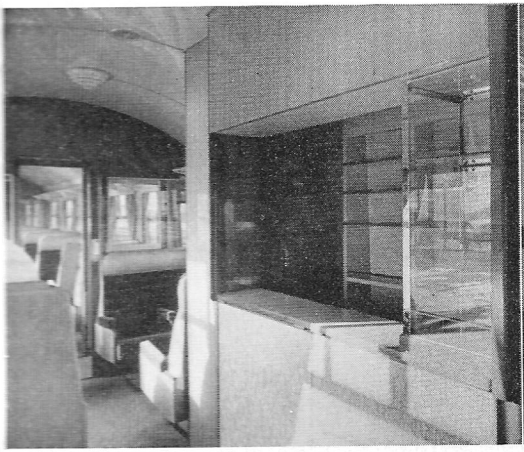
The "Cross-Country" units are built at Swindon and a total of 145 cars to make up such sets are on order, comprising 98 power cars and 47 trailers. All will be 64½ ft. long over body and the passenger accommoda-

★ New Cross-Country units at Birmingham (Snow Hill) on March 22, 1958. The six-car formation on the left is the 3.40 p.m. to Cardiff and that on the right is the 12.10 p.m. from Cardiff. [*M. Mensing*

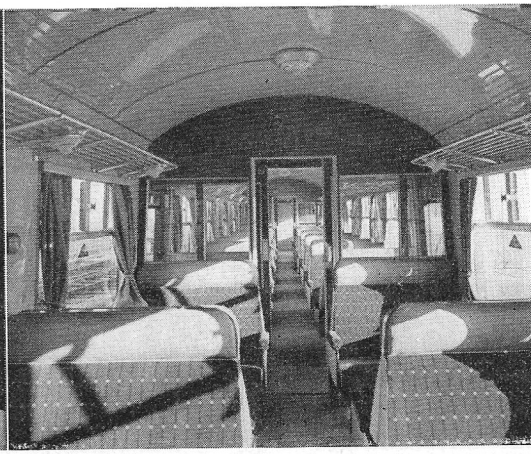
tion in each vehicle is entirely in open saloons, seating sixty-eight in the motor second, sixty-four in the trailer second (which includes a small buffet) and eighteen 1st class and sixteen 2nd class passengers in the motor brake composite. Happily the much criticised arrangement of the guard's and luggage accommodation in the "Inter-City" units, which was placed in the traditional position at each end of the set, has not been perpetuated, and the "Cross-Country" sets have one of the multiple-units' best-selling features – the wide view ahead or to the rear through the driving compartments from seats in the outer vehicles of each unit. Physical intercommunication between two or more units coupled together is thus not possible – hence, presumably, the provision of a buffet in each three-car set.

In the small buffet there is room only for four wall seats on the other side of the car from the bar, and the intention is that light refreshments shall be taken by passengers at their seats; for this purpose each passenger bay throughout the set is fitted with a collapsible table that folds back against the wall when not in use. The buffet is equipped with a hot water boiler operating on propane gas (stored under the frames) and an electric refrigerator. Hot water for the lavatories is provided by electric heaters and the passenger accommodation is warmed by Smith's combustion heaters, which operate on diesel fuel. As on the "Inter-City" units, these heaters combine thermostatic with passenger control, and in hot weather they can be used to pressure-ventilate the cars by running only their air fans.

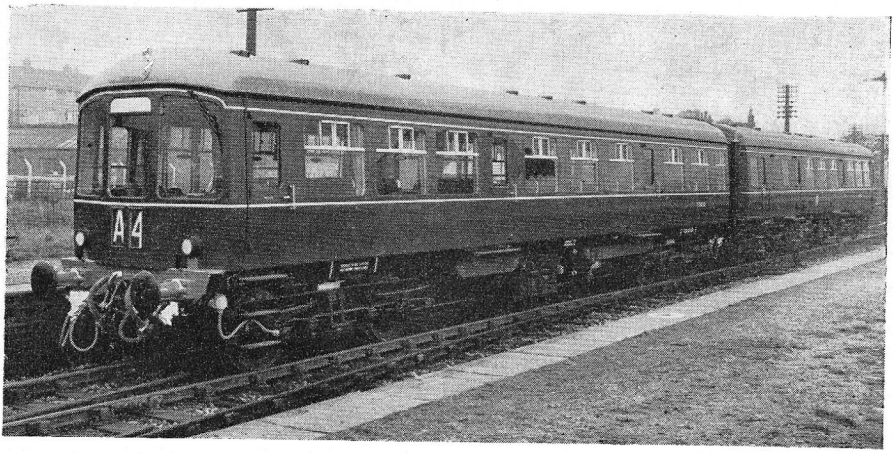
The power equipment is almost identical with that of the "Inter-City" units. Each power car is fitted with two B.U.T. 150 h.p. diesel engines driving through a fluid coupling, a four-speed epicyclic gearbox and a forward and reverse gearbox.



★ The buffet of a Cross-Country unit.



★ Second class saloon of a Cross-Country unit.

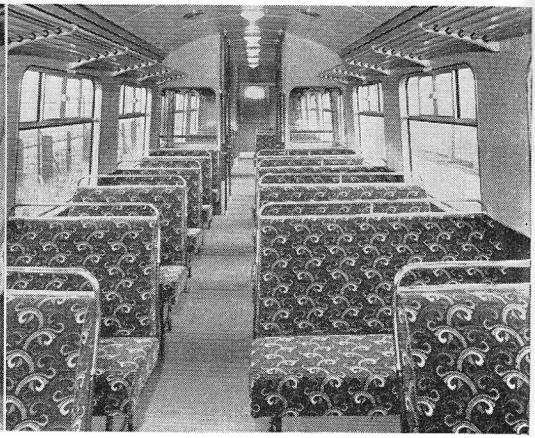


Park Royal railcars for British Railways

THE first of a British Railways order for 20 diesel twin-units, each consisting of a power car and a driving trailer, has been completed by Park Royal Vehicles Ltd. The cars are being assembled by Crossley Motors at Stockport, and the first to be delivered to British Railways, power cars Nos. 50395-8 and trailers Nos. 56150-3, have been allocated to Llandudno Junction depot, on the L.M.R.

Park Royal have evolved another integral design that dispenses with orthodox body and underframe construction (the Wickham and Gloucester cars were earlier examples) in order to cut down weight. The Park Royal scheme is based on a frame, not self-supporting, with two 8 in. by 3 in. channel centre longitudinals threaded through folded channel transverse members which taper up to the "Z" section rolled solebar. When the body sides are erected an additional angle is welded the full length of the solebar, bringing it up to a depth of 15 in., with internal stiffening beneath each doorway opening. The body side structure pillars are welded to this angle solebar extension member, and to the pillars are welded the bodyside framing units with their steel panelling. A deep cantrail is necessary to distribute stress concentrations adequately in the bodysides and underframe. Drawgear and buffing loads are distributed throughout each end of the frame by diagonal members and plating, taking the main component of these loads

(*Continued on page 280*)



★ Park Royal multiple-unit interiors – **(left)** a first class saloon and **(right)** a second class saloon.

Southern Newsreel

The Summer Timetables

PRINCIPAL feature of the summer timetables of the Southern Region is the splendid service which is to be enjoyed by the Charing Cross–Tunbridge Wells–Hastings line. With the help of additional diesel-electric train sets, the passenger workings will be taken over in their entirety by diesel power, and hourly trains are to run from Charing Cross from 8.20 a.m. till 11.20 p.m. (whereas the last down train previously, except on Wednesdays and Saturdays, was at 7.20 p.m.), and at every hour up from Hastings from 9.20 a.m. to 10.20 p.m. There will be one or two slight variations in starting times, as well as the additional 5.5, 5.14, 5.39 and 6.5 p.m. expresses from Cannon Street and the 7.8, 7.30, 7.45 and 8.20 a.m. from Hastings to Cannon Street. Of the last eight the 5.5 and 6.5 p.m. down and the 7.45 and 8.20 a.m. up will all be 90 min. trains; the remainder in most cases will take 95 min. down and 96 min. up. With the exception of one or two of the business trains each way, all down expresses will be non-stop from Tunbridge Wells to Crowhurst, leaving at the former a through portion for all stations to Hastings; and the same process will operate in the reverse direction, the portions being joined at Tunbridge Wells. The Bexhill West connections from and to Crowhurst will also be made by diesel sets, the arrivals at and departures from Bexhill both being at 55 min. past the hour down and 20 min. past up, like those at Hastings. Another important development is that twelve trains in each direction daily will be provided with new buffet cars. There is also to be an hourly diesel-electric service between Hastings, Rye and Ashford, and an interesting feature is that one of these trains – the 6.45 a.m. from Hastings – will run through from Ashford to Tonbridge and be attached there to the 7.15 a.m. from Hastings to Charing Cross direct. As to other Eastern Section changes, the Saturday 1.52 p.m. from Charing Cross to Folkestone, Dover and Deal will start at 2.8 p.m. and pick up the 16 min. difference in running, while the 2 p.m. to Ashford and Folkestone will be diverted to run to New Romney instead. On the Central Section the half-hourly stopping trains during the day from Three Bridges to Horsham, Arundel, Littlehampton and Bognor Regis are to start from Victoria at 2 and 36 min. past each hour, calling at East Croydon, Redhill and Gatwick Airport, and the same will apply to certain trains in the morning and evening rush hours as well as in the opposite direction. The 7.40 a.m. from Brighton to Victoria will start 3 min. earlier, and be relieved by a new 7.40 a.m. to London Bridge; a new 7.21 a.m. from Littlehampton, calling at principal stations to Hove and then at Preston Park, Hassocks, Burgess Hill, Haywards Heath and East Croydon to London Bridge, similarly will relieve the 8.6 a.m. from Brighton to Victoria; and the 8.2 a.m. from Seaford will run to Victoria, independently of the 8.4 a.m. from Eastbourne to London Bridge. Going down, the 6.5 p.m. from London Bridge will be divided into a separate 6.4 p.m. to Littlehampton, first stop Hove, and a 6.7 p.m. making the existing stops to Brighton. There will be an additional 6.35 p.m. from Victoria to Horley, Three Bridges, Haywards Heath and Brighton. A new hourly service is to operate between Horsham and Brighton via Steyning. On the Western Section the number of Bournemouth two-hour trains will be augmented by the summer 2.30 p.m. from Waterloo, which is also to take over the Weymouth portion of the 1.30 p.m. down, reaching Weymouth at 5.38 p.m. – an acceleration of 55 min. On Sundays there is to be a new 9 a.m. from Waterloo to Plymouth and Ilfracombe and a 6.30 p.m. from Exeter to Waterloo, both calling at all principal stations and provided with restaurant cars. As compared with the previous through Sunday service between Plymouth and Portsmouth only, the Plymouth–Brighton buffet car train is to run on Sundays also, though with more intermediate stops than on weekdays.

Longer Central Section trains

THE altered Central Section timetable that comes into force on the Southern Region this summer is accompanied by some interesting changes in operating methods. Some stopping services in the peak hours, such as the 6.26, 6.48, 7.13 and 7.28 a.m. from Brighton to London Bridge in the up direction, are being increased in length to ten or twelve cars for all or part of their journeys, and more trains are to be enlarged as extra rolling stock becomes available; in this connection we hear that the platforms at Purley, Coulsdon South, Merstham and Redhill, are being lengthened to accommodate twelve-car trains, and similar action is to be taken with Platforms 12 and 13 at London Bridge. The present down relief road between Gloucester Road Junction and South Croydon is being adapted for reversible workings, to enable the up peak-hour Oxted line workings to keep clear of the Brighton main line traffic during their stop at East Croydon. This

change required the installation of three new crossovers, on the Oxted line beyond South Croydon, from down relief to up fast north of East Croydon (for Victoria-bound trains), and from down fast to up fast on the Norwood Junction line beyond Gloucester Road Junction. (It should make life interesting for the East Croydon station staff in the morning rush-hour!) It has now been decided that the new "2-HAP" electric stock will not be used for the Gatwick service, but that "2-HAL" sets will be transferred to the Central Section from the Eastern Section as they are replaced by the new units. A B.E.A. proposal that a Hastings diesel multiple-unit be maintained at Gatwick at night as a standby for Airport traffic when the current is cut off has been turned down on grounds of expense.

Hampshire diesels' success

THE Hampshire diesel multiple-unit scheme has once more demonstrated the efficiency of the new forms of traction in increasing passenger revenue where there is a sizeable new traffic potential. It will be recalled that Stage 1 of the scheme covered hourly semi-fast services between Portsmouth and Salisbury, hourly stopping services between Portsmouth and Southampton Central, and hourly trains between Southampton Terminus and Winchester City from September 16, 1957, to which were added from November 4, 1957, hourly services between Southampton Terminus and Alton, and between Portsmouth and Andover Junction. These workings replaced 2,587 steam passenger train miles with 6,058 diesel unit train miles every weekday, covered by 18 two-car units (three of which are spare for maintenance purposes at any given time), whereas the original schedules required 20 steam locomotives and 42 coaches. In the first full month of workings passenger journeys on the services dieselised were up by nearly 48 per cent, and the increase in revenue was nearly 56 per cent. So big was the response that it taxed the units' capacity at peak periods, and some supplementary steam workings had to be put on. As we have already reported the Southern intends to meet this problem by adding another trailer to each unit to make them three-car sets, up-rating the diesel engine to 600 h.p. to provide for the added load, but although the alterations to the diesel engines are likely to be made this year it seems doubtful whether the additional trailers can be provided before 1959 at the earliest, in view of other demands on construction facilities. There will probably be a similar delay in the provision of the extra units needed to proceed with Stage 2 of the Hampshire scheme, which entails an extension of the Southampton Terminus–Winchester City service to Reading General via Basingstoke, a Portsmouth portion being added to and detached from the trains at Eastleigh, and the extension of the Portsmouth-Southampton Central service to Romsey.

Electrification in Thanet

WE hear that the first of the 13 Bo-Bo electric locomotives required for boat train and freight haulage when Phase I of the Kent Coast electrification is completed, and which are being built at Doncaster, is likely to be ready in June. Also likely to be available then is the first of the Derby-built 1,160 h.p. diesel-electric locomotives, which the S.R. is acquiring on loan from the L.M.R., for allocation to Hither Green, until their own 1,550 h.p. type by the Birmingham R. C. & W. Co. is ready; the latter, apparently, may not emerge until the beginning of 1960. We have also gleaned some further detail of the probable pattern of passenger train services likely in Phase I of the Kent electrification. It is proposed that the normal weekday hour service from Victoria will involve a departure at 15 min. past, dividing into Sheerness and Ashford portions at Swanley and at 40 min. past, dividing into Ramsgate and Dover Priory portions at Gillingham. With stops at Bromley South, Chatham and Gillingham, arrival at Whitstable will be within 75 min. of departure from Victoria, and at Ramsgate, after intermediate stops at the coastal towns, within 114 min.; presumably there will be additional and slightly faster peak-hour services for Kentish businessmen. The Ramsgate–Dover train will be followed from Rochester by the stopping service at 42 min. past the hour from Charing Cross, after the latter has shed a Paddock Wood portion at Strood; the Charing Cross service will overtake and connect with a Sheerness–Dover Priory train at Faversham, and a Sheerness–Sittingbourne train will connect at Sittingbourne with the fast train from Victoria. In Phase II, due for completion by the summer of 1962, it is proposed to operate an express service at 5 min. past each hour from Charing Cross via Ashford, where a Canterbury West–Ramsgate portion will be detached, to Folkestone, Dover and intermediate stations to Margate, but in alternate hours it will be faster by running non-stop from Waterloo to Ashford and thence to Folkestone Central, instead of stopping at Sevenoaks, Tonbridge, Sandling and Shorncliffe. The suggested timing for the first service involves a 59-min. booking from Waterloo to Ashford, and a 15½-min. timing from Ashford to Folkestone Central, where arrival will be due 80 min. after leaving Charing Cross. We understand that 59 four-car and 62 two-car multiple-units are to be supplied for Phase I of this scheme.

The South Wales main line

by CECIL J. ALLEN
M.Inst.T., A.I.Loco.E.

IT is intriguing to speculate on the redistribution of locomotive power which will take place as the main line diesel-electric locomotives begin to displace the bigger express engines on some of the principal main lines in the country. It has been confirmed that by 1961 twenty-two 3,000 h.p. "Deltics" will be in operation on the East Coast main line from King's Cross until the electrification is completed, and this will mean the liberation of not a few "A1" and "A4" Pacifics. On the London Midland Region main line out of Euston, also to be turned over to electrification by the end of ten years from now, little provision appears to have been made as yet for diesel substitution in the intervening period, though to-day the L.M.R. is considerably more in need of additional power for the heaviest trains now being worked by "Royal Scot" and "Jubilee" 4-6-0s (and frequently piloted) than is the E.R., with its extensive stock of Pacifics.

One would have thought, moreover, that the British main lines on which diesel locomotives would pay the most handsome dividends are those in Scotland. Particularly is this the case with the East Coast main line from Edinburgh to Aberdeen, with the start from almost every intermediate stop to be made up sharply rising gradients, some of them lengthy, and such additional handicaps as the recovery from the severe slack round Inverkeithing curve to climb the 1 in 70 to the Forth Bridge. Over such a route the high starting tractive effort of a diesel unit of 2,500 or 3,000 h.p. would be of incalculable value, and would make 3 hr. timings between Edinburgh and Aberdeen, with all existing intermediate stops, a matter of little difficulty.

The same applies to the Edinburgh–Perth line, and even more so to the Highland line from Perth to Inverness. To get the full economic use out of diesels, of course, it is necessary to make the maximum possible use of their continuous availability, but with through running between Edinburgh and Aberdeen and Edinburgh and Inverness and fill-in duties between Perth and Aberdeen or Edinburgh and Glasgow one would imagine that fairly continuous employment could be found for a pool of such diesels based on Edinburgh.

Now this is precisely what the Western Region is planning to do, and has already taken the first deliveries of an extensive stud of diesels for the purpose, between Newton Abbot and Penzance. But the remarkable thing is that diesel haulage is proposed at the same time for the main line between Paddington, Bristol, Exeter and Newton Abbot. Why this is remarkable is because the Great Western has always prided itself, and not without reason, on the efficiency of its steam locomotive stock, and recently has been doing not a little to modernise its principal locomotive classes, as witness the high temperature superheat and double blast-pipes of the "King" class 4-6-0s and of certain of the "Castles" and "Counties" also. Indeed, there have even been rumours of further modernisation of the "Kings" with roller bearings and other up-to-date details of equipment.

What will become of the "Kings" when they are ousted from their principal present duties by diesels? Will they be transferred to the South Wales main line? If they are, it might make possible some much-needed acceleration of the South Wales services, the schedules of which, apart from a few trains such as the down "Pembroke Coast Express", are leisurely to a degree in their progress compared with Western Region timings in other directions. A few might be needed, also, to displace the remaining "Castles" still working some of the faster trains between Paddington and Wolverhampton. And what of the surplus "Castles" when the time comes? Some of them, of course, are distinctly elderly, as the first "Castles" entered service in 1923, 35 years ago, but many of the later engines of this class are comparatively modern.

There might be difficulty in using "Castles" over the main lines of some other Regions because the generous cross-sectional dimensions to which they have been built might not fit in with more limited clearances elsewhere, though certainly *Launceston Castle* worked through from Euston to Carlisle in 1926, just as *Caldicot Castle* travelled from King's Cross to Darlington for the Railway Centenary procession. But what ideal engines "Castles" would be for the accelerated Midland Division expresses of the L.M.R.! And they ought to have a good deal more in hand between Euston, Birmingham and Wolverhampton than the present "Jubilee" 4-6-0s on this service, though they would not better the "Royal Scots".

Lastly, the Southern electrification to Folkestone, Dover, Margate and Ramsgate

will shortly set free a considerable number of "Schools" 4-4-0s and Bulleid light Pacifics — all highly capable engines, especially the latter in their rebuilt form. Where could they be put to the best use? It could hardly be on the services still remaining steam-operated on the Southern Region; indeed, many of the humble duties performed by these engines west of Exeter could be handled with ease by considerably less costly Moguls. It would seem that the time must come shortly for a complete re-assessment of motive power needs over the entire country, and for a redistribution of the locomotive stock without any restriction arising out of its present Regional ownership.

And now, as I have mentioned the South Wales services of the Western Region, it will be appropriate to describe some runs between Paddington and Cardiff on which time recovery, for various reasons, indicates how far less liberal many of the schedules might be in view of the locomotive power employed. It is true that the severe handicap of the climb out of the Severn Tunnel, particularly in the up direction, deserves a fairly substantial recovery allowance, not so much because of loss of time by passenger engines as the result of delay from freight trains over this heavily-occupied route. But even so the lethargy of some of the schedules is inexplicable. The latest addition to the service has been the 7.55 a.m. down, but why this train, of much the same weight as the 10.55 a.m. "Pembroke Coast Express", should need 173 min. for the 133.4 miles to Newport with three intermediate stops, whereas the 10.55 does the same journey non-stop in 131 min. is a mystery.

Equally one would expect the eight-car "South Wales Pullman", in view of the supplementary charge for its use, to provide a high standard of speed as well as of comfort, but this 320-ton load is allowed 151 min. to Newport non-stop, as compared not only with the 131 min. of the "Pembroke Coast", but also with the 146 min. of the heavier 11.55 a.m. down. The result is that, whereas the Pullman might have been expected to relieve the weighty 8.55 a.m. down, as it arrives only from 12 to 15 min. earlier at all stops from Newport to Swansea inclusive the latter is generally a full train, so far as I have observed, whereas the former is but sparsely occupied. The up Pullman working is a shade faster, but one could hardly regard the 160 min. non-stop allowance of the up "Red Dragon" from Newport to Paddington, average 50.3 m.p.h., as an outstanding advertisement for Western Region speed.

Table I sets out five runs on the "Pembroke Coast Express", which has the fastest timing of the day in the up direction — 145 min. for the 133.4 miles from Newport to Paddington. This train normally brings up a load of eight bogies only, as on Runs 1 to 3; but the fourth and fifth runs were with 10 coaches, which brought the gross load up to 355 tons. For the details of Runs 1 and 5 I am indebted to Mr. D. S. M. Barrie, for No. 2 to Mr. P. J. Parkes, for No. 3 to Mr. H. J. Frank, and for No. 4 to Mr. J. H. Colyer-Fergusson.

On the first run *Coity Castle*, manned by Driver A. G. Carrington and Fireman D. L. Morgan of Old Oak Common, had a late start of 3 min. from Newport, but with a clear road to Maidenhead the arrears by the latter station had been converted to 1½ min. in hand; despite three severe signal checks the Paddington arrival was only a shade behind time, and the net time was not more than 136 min., or 9 min. inside schedule. As previously mentioned, the worst handicap on the up journey is the practically continuous climb of 20 miles from the bottom of the Severn Tunnel to Badminton. It is first for 3¼ miles at 1 in 100 to Pilning; then, after a level ¾-mile, for 3 miles further at 1 in 100 to Patchway; after which a 2-mile level "breather" to milepost 111 leads to 11 miles continuously up at 1 in 300 to Badminton. This is a gruelling ascent with a load of any magnitude, and needs careful husbanding of the engine's resources on the driver's part. *Coity Castle* surmounted the two 1 in 100 stretches at minima of 34 and 31 m.p.h., and attained 56 m.p.h. up the 1 in 300, though falling back to 50 at Badminton, to which point the 44 min. allowance was kept exactly. After that it was 70 to 75 m.p.h. most of the way, except for the Wootton Bassett slack.

On the second run *Hampden* got badly delayed by re-laying in the Severn Tunnel, and although the minima up to Pilning and Patchway were much the same as those of *Coity Castle*, *Hampden* appeared rather more short of breath up to Badminton, which was passed 8¼ min. late. But after that there was a perfectly clear road, apart from the unexplained slowing to 57 m.p.h. through Reading, and a time of exactly 71 min. for the 77.3 miles from Swindon to Paddington, with speed again largely between 69 and 75 m.p.h., brought the express into Paddington dead on time.

The third run, with Driver A. Jones of Old Oak Common (the fireman's name is not mentioned in the log) in charge of *Rougemont Castle*, was a speedy performance. The engine was taken easily up to Patchway, but somewhere along the 1 in 300 the driver opened out with such vigour as to produce an acceleration to 60 m.p.h. on the short level past Sodbury troughs. The harder running then continued, with a maximum of 84 m.p.h. at Little Somerford, and a gradual acceleration after Swindon to 80 at Wantage Road, cut short by a 35 m.p.h. signal check at Steventon, by which point 4½ min. had been gained. Speed was up again to 72 m.p.h.

TABLE I
W.R. NEWPORT–PADDINGTON

Dist.	4-6-0 No. Load, tons tare Load, tons gross	Schd.	5035 258 275		5074 263 280		5007 278 300		4078 334 355		5035 332 355	
miles.		min.	m. s.	m.p.h.	m. s.	m.p.h.	m. s.	m.p.h.	m. s.	m.p.h.	m. s.	m.p.h.
0.0	NEWPORT ..	0	0 00	—	0 00	—	0 00	—	0 00	—	0 0	—
3.8	Llanwern ..	—	6 55	55	6 05	53	5 59	54½	5 34	—	6 31	54
7.4	Magor ..	—	10 42	59	10 00	56	9 48	60	9 15	64	10 25	57½
		—	—	—	*sigs.*	—	*sigs.*	*20	*sigs.*	*35	—	—
9.8	SEVERN T. Jc.	13	13 35	*25	13 15	—	14 00	—	12 14	—	13 37	*25
10.7	*Severn T. W.* ..	14½	15 21	49/66	*p.w.s.*	—	15 43	68	13 32	75	14 57	49/70
15.6	*Severn T. E.* ..	—	20 42	42	26 03	39	20 08	—	18 20	42	20 07	43
		—	—	—	—	—	—	—	*Sigs.*	*25	—	—
16.7	Pilning ..	—	22 42	34	28 10	33	22 18	37	20 34	—	21 53	37/45
		—	—	43	—	36	—	43	—	38	*sig. stop*	—
20.3	Patchway ..	27½	28 35	31	35 00	32	28 19	28	26 45	29½	35 02	19
21.9	*Stoke Giff. E.*	29½	30 50	48½	37 45	40	30 40	40	29 03	45	37 45	40
24.9	Coalpit Heath	—	34 26	48	41 40	44	34 36	48	32 21	56	41 40	45
28.8	Chip. Sodbury	—	38 47	56	46 35	50	38 58	60	36 34	59	46 33	53
33.4	BADMINTON	44	43 59	50	52 15	48	43 44	55	41 36	51	52 16	46
39.1	Huilavington	—	49 30	73	58 00	69	48 43	78	46 35	81	58 01	69
43.6	Somerford ..	—	53 05	77½	61 40	78	52 02	84	49 49	86	61 42	77½
46.4	Brinkworth ..	—	55 18	71	63 50	72	54 05	76	51 49	77	64 56	71
50.5	W. BASSETT	60	59 16	*58	67 45	*57	57 38	*61	55 33	*57	67 55	*60
56.1	SWINDON ..	65½	65 00	63½	73 40	61	62 50	66	61 04	63	73 17	67
		—	—	—	—	—	—	—	—	—	*p.w.s.*	*55
61.9	Shrivenham ..	—	69 58	72	78 40	72	67 45	71	66 07	70½	78 47	66
66.9	Uffington ..	—	74 20	74	83 05	73	71 48	75	70 20	73	83 16	70
69.6	Challow ..	—	76 29	73	85 15	73	73 50	78	72 29	73	85 33	70
73.0	Wantage Rd.	—	79 21	72	88 05	74	76 27	80	75 16	72½	88 26	71
		—	—	—	—	—	*sigs.*	*35	—	—	—	—
76.9	Steventon ..	85	82 38	69	91 15	75	80 26	—	78 32	73½	91 49	72½
80.3	DIDCOT ..	88	85 30	70	94 03	74	85 27	52	81 24	74	94 42	70
84.9	Cholsey ..	—	89 29	69	97 55	72	90 03	64	85 04	72	98 39	69
88.6	Goring ..	—	92 41	68	101 00	70	93 17	70	88 13	72½	101 52	69
91.9	Pangbourne ..	—	95 40	68	103 50	69	96 02	70	90 55	71	104 42	71
94.8	Tilehurst ..	—	98 18	66/69	106 20	70	98 28	72	93 23	70	107 08	73
		—	—	—	—	—	*sigs.*	*30	—	—	—	—
97.4	READING ..	105	100 48	64	108 55	*57	101 34	—	95 46	65	109 21	71
102.4	Twyford ..	109½	105 31	62½/65	114 00	60	107 31	59	100 19	76½	113 40	*55
109.2	Maidenhead ..	116	111 33	68	120 15	69	113 40	67	106 03	75	119 46	70
		—	*sigs.*	*25	—	—	—	—	—	—	—	—
114.9	SLOUGH ..	121½	117 55	35	125 10	70	118 41	72	110 36	73	124 35	73½
120.2	W. Drayton	—	124 33	—	129 50	66	123 10	72	114 50	72	129 16	64
		—	—	—	—	—	*sigs.*	*58	—	—	—	—
124.3	SOUTHALL	131½	128 37	62½	133 30	66	127 21	63	118 33	68½	133 06	64
127.7	Ealing Bdy. ..	—	131 49	64	136 25	69	130 39	61	*sigs.*	*10	136 06	67
		—	*sigs.*	*30	—	—	—	—	*sigs.*	—	*p.w.s.*	*21
132.1	WestbournePk.	140	138 35	40	141 00	—	135 01	—	128 04	—	142 00	33
		—	*sigs.*	*30	—	—	—	—	*sigs.*	—	*sig. stop*	—
133.4	PADDINGTON	145	142 40	—	144 40	—	138 20	—	132 11	—	147 45	—
133.4	Net times (min.)	145	136	—	138½	—	130	—	127¾	—	133	—

* Speed restriction.

at Tilehurst when a second signal check occurred, and, yet again, to 72 at West Drayton before the slighter slowing at Hayes. These checks were the penalties for running ahead of time, for the train stopped in Paddington just over 6 min. early; the net time of 130 min. was 15 min. less than that scheduled.

Easily the best performance of the series was that set out in the fourth column, with *Pembroke Castle*, manned by Driver Talbot and Fireman Gabriel, at the head of a ten-coach load of 355 tons gross. The train had been 11 min. late away from Cardiff, but with a smart time of 14 min. 51 sec. to Newport and a stop of only 2 min. there, Newport was left 8 min. in arrears. There were signal checks before both Severn Tunnel Junction and Pilning, so that little further time was regained in the earlier stages, but from Stoke Gifford to Southall, with a perfectly clear road, *Pembroke Castle* recovered 12½ min. Highlights were the 86 m.p.h. at Little Somerford, and then the even 70–75 m.p.h. all the way from Shrivenham to Tilehurst, followed, after an easing through Reading, by 75 at Maidenhead; the 85.2 miles from Hullavington to Southall, including the Wootton Bassett slowing, were run at an average of 71 m.p.h. The train had won back to schedule shortly after Didcot; "even time" was attained at Goring; and notwithstanding the concluding signal checks, Paddington was reached 5 min. early. The net time was no more than 127¾ min. for the 133.4 miles, or 17¼ min. less than schedule, with a ten-coach load, which shows the liberality even of the fastest up booked time over this route.

Not quite up to this standard, but another

TABLE II

W.R. NEWPORT–PADDINGTON

Engine: Class "7" 4-6-2 No. 70028 *Royal Star*.
Load: 13 coaches, 445 tons tare, 475 tons gross.

Dist.		*Sched.*	*Actual*	*Speeds*
miles		*min.*	*m. s.*	*m.p.h.*
0.0	NEWPORT	0	0 00	—
3.8	Llanwern	—	6 47	54
7.4	Magor	—	10 25	64
9.8	SEVERN TUN. Jc.	13	13 18	*30
10.7	*Severn Tunnel W.*	14½	14 59	52/73
15.6	*Severn Tunnel E.*	—	19 46	40
16.7	Pilning	—	21 59	36/40
20.3	Patchway	31½	29 24	20½
21.7	*Stoke Gifford W.*	33½	31 26	38
24.9	Coalpit Heath	—	36 01	49
28.8	Chipping Sodbury	—	42 36	*sig.*
			43 27	*stop*
33.4	BADMINTON	49½	51 45	44
39.1	Hullavington	—	58 07	63
43.6	Little Somerford	—	62 08	72
46.4	Brinkworth	—	64 32	65
50.5	WOOTTON BAS.	67½	68 51	*53
56.1	SWINDON	73	74 55	59
61.9	Shrivenham	—	80 29	64
66.9	Uffington	—	85 05	67
69.6	Challow	—	87 33	67
73.0	Wantage Road	—	90 39	68
76.9	Steventon	94	94 03	70
80.3	DIDCOT	97	96 54	71
84.9	Cholsey	—	100 54	70
88.6	Goring	—	104 04	72
91.9	Pangbourne	—	106 44	73
94.8	Tilehurst	—	109 07	72
97.4	READING	113	111 26	67
102.4	Twyford	117½	115 52	69
			sigs.	*54
109.2	Maidenhead	123½	123 15	65
			sigs.	*25
114.9	SLOUGH	129	130 26	66
120.2	West Drayton	—	134 59	70
124.3	SOUTHALL	138	138 30	72
127.7	Ealing Broadway	—	141 29	66
132.1	Westbourne Pk.	145	146 32	—
133.4	PADDINGTON	149	149 25	—
133.4	Net time (min.)	149	139	—

* Speed restriction

very good performance, was that of *Coity Castle* in the last column, also with a ten-coach load of 355 tons gross; driver and fireman in this case were C. Manners and E. R. Bailes of Old Oak. In the early stages of the run an errant freight train ahead brought the express to a dead stand at Incline box, between Pilning and Patchway, and, moreover, on the 1 in 100 gradient, from which recovery through the single line tunnel was by no means easy. As a result, Stoke Gifford was passed 8¼ min. late, but to this incentive the crew responded finely, and would have been into Paddington comfortably on time but for the unhappy concluding checks. Once again there was running mostly round the 70 m.p.h. mark from Uffington to Reading, and after the Twyford 55 m.p.h. slowing 73½ was reattained at Slough. So a net time of 133 min. was achieved. The average net time of these five runs works out at no more that 133 min., 12 min. less than schedule, and only 2 min. more than the allowance of the down "Pembroke Coast Express".

No summary of work over the South Wales main line would be complete without some reference to the work of the standard "Britannia" Pacifics stationed at the Canton shed at Cardiff. It would have been better if all the fifteen "Britannias"allocated to the Western Region had been concentrated at Cardiff from the start, as Canton men have evidently been determined throughout to get the best out of them — which is more than could be said of other of the W.R. sheds that were their temporary hosts — and are certainly succeeding in this aim. They may not find the 4-6-2s so responsive to delicate handling as the "Castles", nor so smooth-riding, quiet and clean, but they have discovered that there is no limit to the capacity of the "Britannia" boiler to make steam.

The up "Pembroke Coast Express" and "South Wales Pullman" being Old Oak duties, Pacifics are not normally seen on them, but I am indebted to Mr. Roger Pope for details of the run with the up "Capitals United Express" which is set out in Table II. This is a considerably heavier train, normally twelve bogies but on this occasion made up to 13, of 455 tons tare and 475 tons gross. The public time of the "Capitals" is 150 min., but the working time 149 min., this reduction of no more than 4 min, on the "Pembroke Coast" and "South Wales Pullman" allowance making the "Capitals", with its considerably more substantial tonnage, the harder proposition of the three.

Royal Star equalled the best "Castle" times though the Severn Tunnel to Pilning, with the exception of that of *Pembroke Castle*, which was probably faster through Severn Tunnel Junction; but the 4-6-2 fell to 20½ m.p.h. up the final 1 in 100 to Patchway. Speed was then recovering normally up the 1 in 300 when there came the stop at Chipping Sodbury, doubtless due to a preceding freight train not having got clear into the loop at Badminton. From Sodbury *Royal Star* ran the 104.6 miles to Paddington in 105 min. 58 sec. start to stop, or 102½ min. net. Once again, as with the "Castles", there came steady running on the level at 70 to 72 m.p.h., from Steventon to Tilehurst, and after the signal checks speed was up again to 72 m.p.h. by Southall. So time was just kept; but allowing 7 min, for the Sodbury stop and 3½ min. for the checks on both sides of Maidenhead, the net time was 139 min., 10 min. less than schedule.

I have a note from Mr. C. B. Mullinger of one run on the up "Pembroke Coast Express" that was made with a "Britannia", and with a ten-coach load of 326 tons tare and 350 tons gross was faster than any of the "Castle" runs in Table I; most tantalisingly, however, my correspondent's log gives no more than the scantiest details of what happened. The engine was No. 70023 *Venus*. Taking no more than 12 min. to Severn Tunnel Junction and 25 min. to Patchway, she beat all the "Castle" times; by Badmin-

TABLE III

W.R. WOLVERHAMPTON–WELLINGTON

Engine: 4-6-0 No. 5026 *Criccieth Castle*
Load: 11 coaches, 363 tons tare, 385 tons gross.

Dist.		*Actual*	*Speeds*
miles		*m. s.*	*m.p.h.*
0.0	WOLVERHAMPTON	0 00	—
1.1	Dunstall Park	2 40	—
4.7	Codsall	6 50	57
6.3	*Milepost 148*	8 27	57
7.7	Albrighton	9 50	64
9.2	Cosford	11 05	73
10.3	*Milepost 152*	11 55	79
12.5	Shifnal	13 55	65
13.3	*Milepost 155*	14 35	63
14.3	*Milepost 156*	15 43	52
15.4	*Hollinswood*	17 06	47
16.6	Oakengates	18 30	54
18.3	*Milepost 160*	20 00	66½
19.6	WELLINGTON	22 07	—

ton, where no time is shown, speed had accelerated up the 1 in 300 to 65 m.p.h., and 84 was reached at Little Somerford, Wootton Bassett being cleared in 54 min. But 4 min. was lost by a 5 m.p.h. underline bridge slowing at Rushey Platt, and the time to Swindon was 63½ min.

Quickly accelerating, the 4-6-2 was up to 73 m.p.h. by Shrivenham, and 84 by Steventon, after which speed was maintained at 73 to 75 m p.h. on to Tilehurst, eased to 68 through Reading and 63 through Twyford, and then maintained again at between 73 and 76 m.p.h. most of the way from Maidenhead to Ealing. Didcot was passed in 83½ min., Reading in 97½ min., Slough in 112½ min., and Ealing in 121½ min.; with a smart finish the stop was made at Paddington in 129 min., or 125 min. net. The late start of 15 min. from Newport was thus recovered entirely, and a punctual arrival effected.

Details of an entertaining "Castle" snippet over a route which does not often figure in these columns reached me recently from Mr. G. A. M. Wood. It was from Wolverhampton to Wellington with the Bournemouth–Birkenhead express, made up to eleven bogies of Southern Region stock, weighing 363 tons tare and 385 tons gross. There is a sharply downhill start from Wolverhampton, but it turns upwards again for 3 miles at 1 in 242 to Codsall and 1 in 180 to milepost 152 before the long descent to Cosford begins. At milepost 148, as Table III shows, speed was 57 m.p.h., quickly raised to 79 by Cosford. Then comes Shifnal bank, all but 5 miles at 1 in 150, which was carried by assault at a minimum of 47 m.p.h., and with a descent at moderate speed through Oakengates, Wellington, 19.6 miles, was reached in 22 min. 5 sec., a gain of 5 min. on schedule.

My correspondent comments on the fact that the engine, judging by its exhaust, was being worked harder than he had ever known previously with a "Castle" up to Hollinswood, and adds that, although the train had left Wolverhampton 18½ min. late, the whole of the arrears had been regained on arrival at Chester. Even with all allowance for the fairly leisurely timings to which the various runs described in this article were made, it is heartening indeed to see the keenness of engine-crews to recover time which has been lost by circumstances not under their own control, and in most cases with such complete success.

Before I close, one matter connected with these articles requires mention. I have a letter from a correspondent expressing surprise that he had not received a personal reply to a previous letter bearing on locomotive performance. The answer is, I am afraid, that every year on the average I receive at least 300 letters on this subject, to which personal replies are completely impossible. When matters of general interest are raised, I try to find room to mention the matters concerned in these columns, but in any event I am hoping to arrange that every correspondent in future will receive at least a postcard acknowledgement to confirm that his letter has reached me.

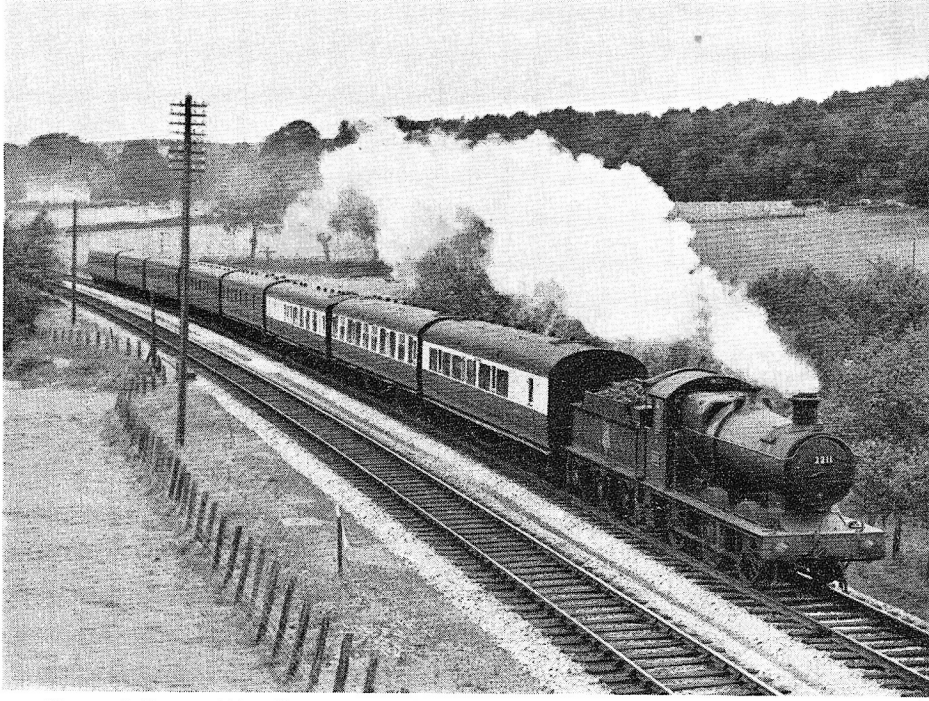
NEWS IN BRIEF

In our December, 1957 issue, page 675, we published details of the accelerated, "Britannia"-worked Liverpool Street–Clacton services due to be introduced in the summer timetable; of these the most outstanding, the new 7.51 a.m. up from Clacton and the 5.27 p.m. down from London are, we hear, to be named the "Essex Coast Express" . . . As reported last month, the Eastern and North Eastern Regions have now introduced "Rail Rover" tickets, which cover unlimited rail travel by ordinary or advertised excursion trains for any seven consecutive days between April 1 and October 31; the Eastern "Rail Rover" ticket costs £9 first class and £6 second class, the North Eastern £7 10s. first class and £5 second class, with special concessions for children and families travelling together, and there is also available a ticket covering both Regions for £13 10s. first class and £9 second class . . . Maintenance work on the South Esk viaduct at Montrose, which has taken five months of Sunday operations, was completed early in March and normal Sunday running of East Coast trains between Edinburgh and Aberdeen was resumed on March 9 . . . Following the success of the new "Caledonia" bar in the Glasgow Central refreshment rooms, similar services are to be provided at other Scottish terminals; at Perth the tea room has been extended to cater for "Car-Sleeper" passengers, and modernisation of the refreshment rooms at Stirling and Ballater will be undertaken soon . . . Layout reorganisation at Kensington (Olympia) now keeps the special exhibition services run by London Transport clear of West London line traffic; the L.T. trains use an independent single line controlled by the L.T. West Kensington signalbox for the last ¼-mile into the station, where a bay platform has been constructed to accommodate them . . . Beginning in mid-March four Regions were co-operating in a quiz of passengers on trains between Scotland and provincial cities in the Midlands and North of England to assess the suitability of present services to the needs of businessmen and other regular travellers . . . Colour-light signalling, providing increased track capacity, has been installed from Brighouse to the Greetland side of Elland Tunnel on the ex-L. & Y. Calder Valley main line, we hear from Mr. A. S. Woodcock; a new signalbox at the east end of Elland station replaces three cabins – Elland East, Elland West and a small box at Waterhouse Sidings, between Elland and Brighouse.

Above: W R. 4-6-0 No. 5023 *Brecon Castle* drifts down Rattery bank to Totnes with the 1.20 p.m. Penzance–Paddington on August 7, 1956. *T. E. Williams*

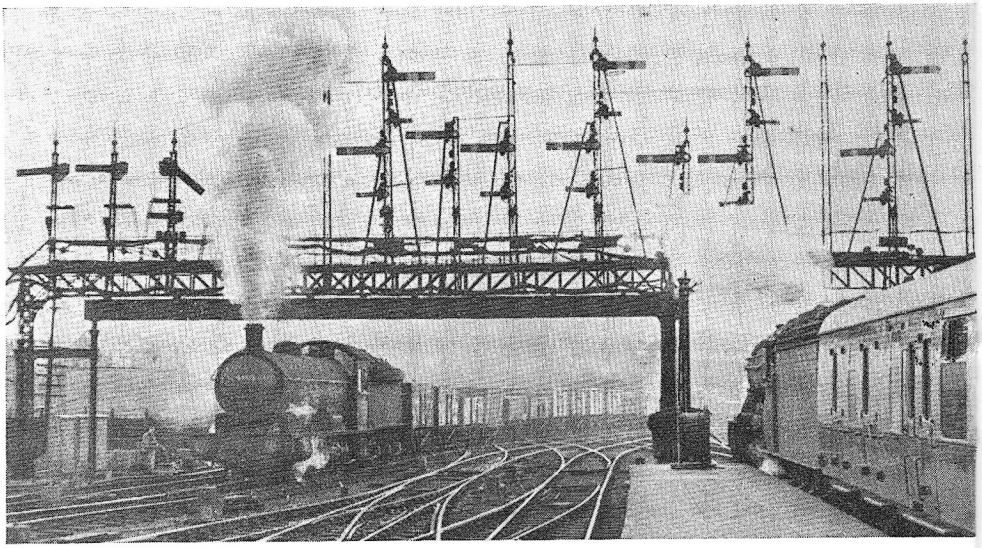
Below: Class "H16" 4-6-2T No. 30520 pulls out Waterloo with empty stock for Clapham Junction sidi S.R. *[P. Ransome-Wa*

ut of
dings,
Wallis



Above: A Newton Abbot–Kingswear local, headed by W. R. "2251" Class 0-6-0 No. 2211, soon after passing Aller Junction on August 4, 1956. [*R. J. Blenkinsop*

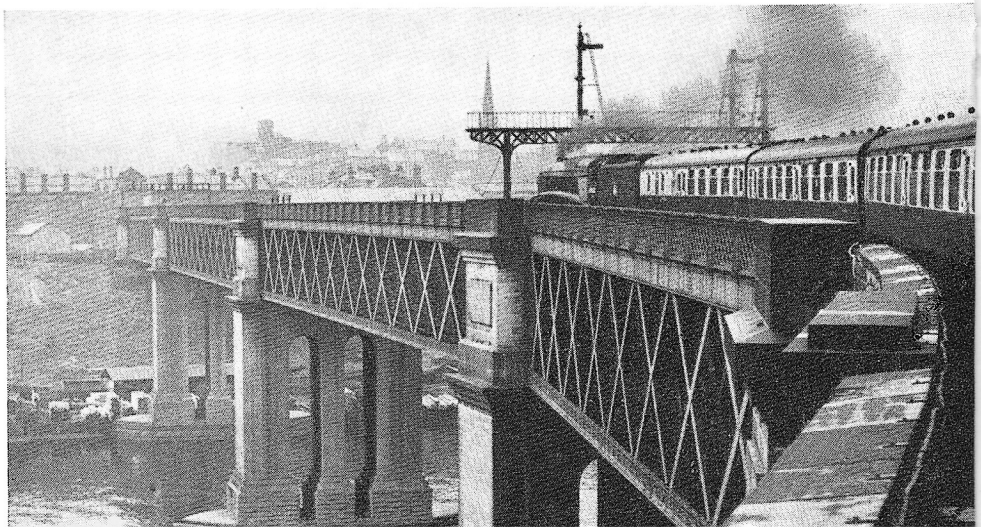
Below: S. R. Class "0415" 4-4-2T No. 30582 approaches Lyme Regis with an evening branch train from Axminster on August 28, 1955. [*G. D. King*



Above: Class "Q6" 0-8-0 No. 63376, fighting for adhesion, comes off the Blaydon line at the west end of Newcastle Central and takes the goods line outside the station with a down freight on March 28, 1957. The famous gantry is now replaced by colour lights. [*R. Webster*

Left: The High Level Bridge at Newcastle, with the castle visible on the left. Crossing the bridge is Class "A2/2" 4-6-2 No. 60501 *Cock o' the North* with a York–Newcastle train routed via Gateshead. [*K. Field*

Below: A view of the King Edward Bridge, Newcastle, from the northbound "Flying Scotsman", headed by Class "A4" 4-6-2 No. 60032 *Gannet*, on June 29, 1957. [*Mrs. F. Wall*



RESORTS FOR RAILFANS — 24

Newcastle Central

by
B. PERREN

ONE of the preoccupations of the original railway companies seeking to serve Newcastle was the problem of crossing the River Tyne. Several schemes were projected, but the plan finally chosen was one suggested by George Stephenson, for a high level bridge between Castle Garth, on the north side of the river, and Greensfield (Gateshead), on the south side. The High Level Bridge at Newcastle was under construction at the same time as the city's Central station and the joint sponsors of both these works were the York, Newcastle & Berwick and the Newcastle & Carlisle Railways, both of whom were later absorbed into the North Eastern Railway. The bridge was built to the design of Robert Stephenson, who was consulting engineer, and Thomes E. Harrison, engineer to the York, Newcastle & Berwick Railway; the first pile for the foundation was driven on October 1, 1846, and the permanent way was completed in June, 1849. To-day the bridge carries three railway lines on its upper deck and road traffic on the lower deck.

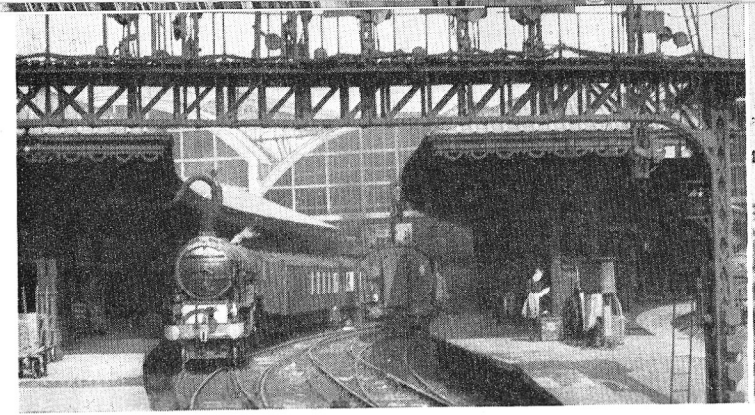
The Central station was completed in August, 1850, and formally opened by Queen Victoria on August 29. Trains of the York, Newcastle & Berwick company began to use the station on the following day and the Carlisle company's trains from January 1, 1851. Twenty years later an additional island platform was added on the south side of the station, but there was no further expansion until 1894, when a large extension of the station and its facilities was completed, including a capacious hotel, two arcades, a new booking hall, additional lines and platforms on the south side and new loading docks at the east end.

Despite these developments, the major handicap of reversal of all through East Coast trains had not been overcome. Shortly after the turn of the century, therefore, the directors of the North Eastern Railway decided to proceed with the costly, but very necessary, construction of an additional bridge across the Tyne to the west of the High Level Bridge, and the addition of about half-a-mile of railway from the west end of the station across the river to join the existing lines from both directions. This enabled through working of East Coast traffic without reversal. The length of the new bridge, which was opened by King Edward VII on July 10, 1906, and named the King Edward Bridge, is 1,150 ft. and it is built of double lattice girders on piers of Norway granite. A three-arch stone viaduct abuts it at one end.

The railway geography of the Newcastle area is somewhat complex because of its many alternative routes, flat junctions, intermediate signalboxes and stations. Approaching Newcastle from the south, the main line from Durham and York is joined at King Edward Bridge signalbox by the route from Blaydon and Consett via Dunston (which it has previously bridged just after Bensham station), and the latter throws off a connection to give its trains access to the King Edward bridge. The main line then divides into a double track curving sharply leftward on to the bridge and another double track – the old entry to Newcastle – that continues past Gateshead motive power depot and works, paralleled by the two Dunston tracks as far as Greensfield box. A fourth double track from Greensfield box on to the bridge completes the triangle, and two of the three junctions are controlled by Greensfield box.

The four tracks over the King Edward Bridge are designated up and down South (the main lines) and up and down East (the lines from Greensfield), although they are not completely independent, since interchange is possible by means of crossings at each end of the bridge. At the north end, by Newcastle No. 3 box, the bridge lines curve sharply right to converge with two pairs of tracks from Blaydon via Scotswood, and then some intricate pointwork distributes the layout into the platforms and avoiding lines of Newcastle Central.

The old approach to Newcastle from the south makes a triangular junction, on which stand Gateshead East and West stations, with the South Shields and Sunderland route at the approach to the High Level Bridge, over which there are three tracks – up main and down fast and slow. On the other side of the river, at the east approach to Newcastle Central, these three lines converge on the famous manganese steel crossing with two pairs of tracks from Manors, both of which are electrified; they are respectively the up and down Tynemouth and the up and down North main lines. No. 1 signalbox is in command of operations at this end of Central station and the east end of the goods lines. Incidentally, a spare set of crossings is maintained for the junction between the Manors and High Level Bridge line in view of its importance, although the use of manganese cast steel

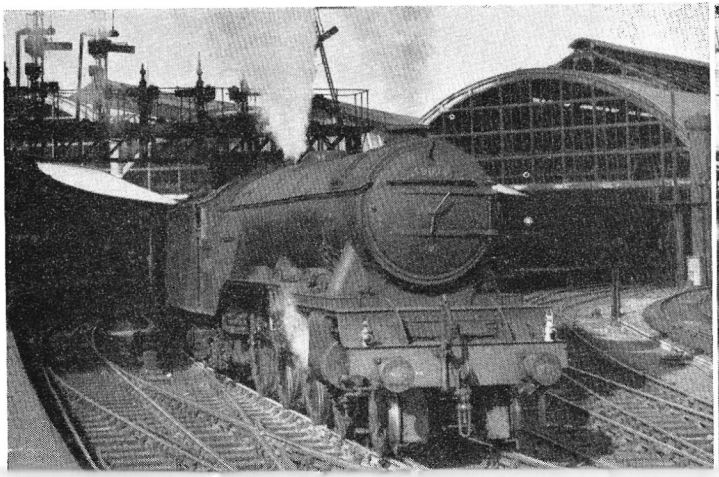


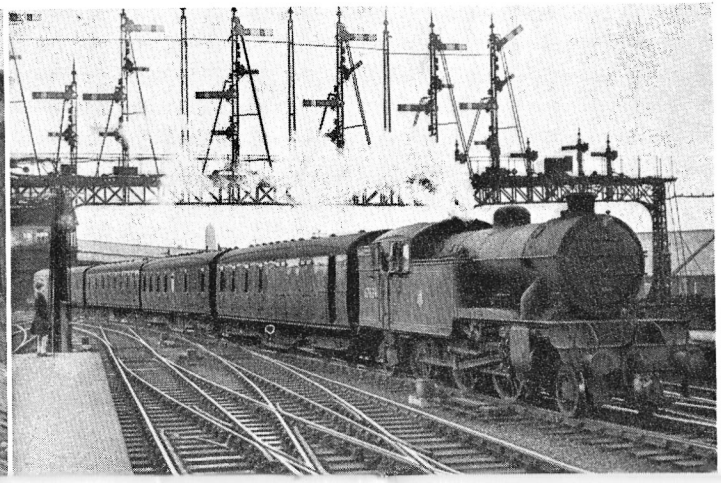
Above: A demonstration of the reversible working of Newcastle Central's through platforms. A down train stands in No. 9, while Class "A1" 4-6-2 No. 60152 *Holyrood* arrives in No. 8 with the up "Queen of Scots". [*W. Philip Conolly*

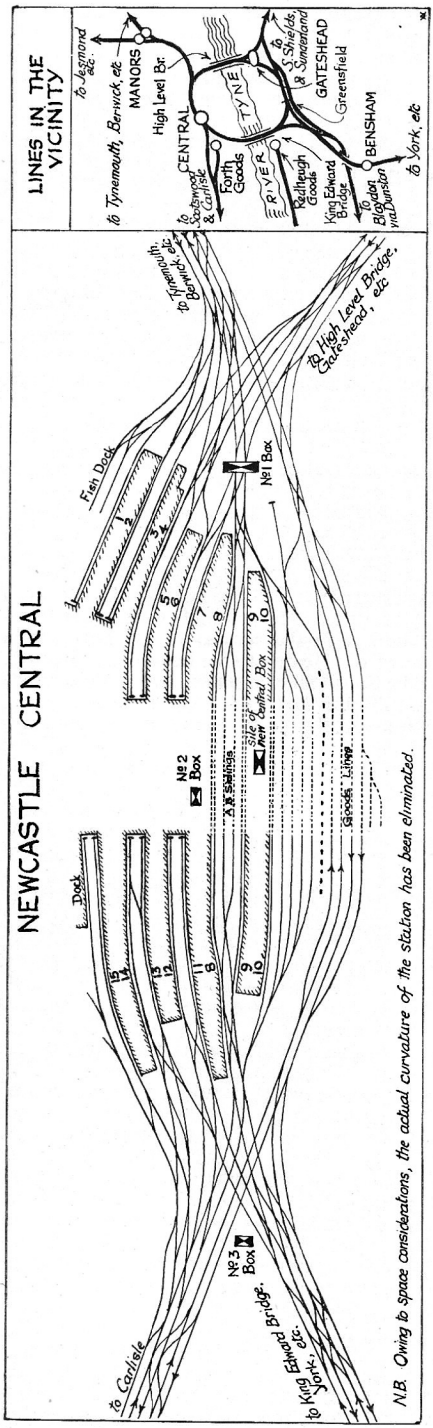
Below: Class "A3" 4-6-2 No. 60074 *Harvester* pulls out of No. 9 platform, Newcastle Central, with a Bristol express on April 28, 1956. [*J. D. Smith*

Above: An express from Edinburgh, headed by Class "A1" 4-6-2 No. 60115 *Meg Merrilies*, passes beneath No. 1 signalbox at the eastern approach to Newcastle Central [*R. Webster*

Below: Class "V1" 2-6-2T No. 67639 comes off the King Edward Bridge and enters Newcastle Central with a local from Blackhill and Consett via Pelaw South and Ouston Junction. [*P. Ransome-Wallis*







has increased service between renewals, the last of which occurred in 1956, when a 1949 set was taken out; it will be replaced when the present layout requires refettling. The two layouts are prefabricated and are first assembled at the manufacturer's works for checking, then dismantled and taken to Low Fell Storeyard for transfer to the site.

The fifteen platforms of Newcastle Central station lie on a curve and run roughly from east to west. From an operational point of view the station is divided into the three through platform lines and the west and east end bays. The west end terminal platforms are numbered 11, 12, 13, 14 and 15, and beyond platform 15 there is a carriage dock; the east end of the station comprises platforms 1 to 7, all of which are equipped for, but not used exclusively by electric trains. The three through platform roads are numbered 8, 9 and 10, and can be used for either up or down trains; platforms 9 and 10 form an island platform and between 9 and 8 are two carriage sidings. Platform 8 runs the entire length of the station and can hold between twenty and twenty-four coaches in addition to an engine. The three spans of the station roof also cover some sidings next to platform 10; these are used for stabling coaches, vans and sometimes for standing locomotives. Beyond the wall adjoining these sidings are the four goods lines which avoid the station itself, but not the busy crossings at either end. The west end carriage dock is used for loading parcels and miscellaneous goods, including the week-end theatrical traffic, horses and, during the summer, cars for the Car-Sleeper service. At the east end there is a loading dock used for loading and unloading parcels traffic, including the electric parcels cars on the Tynemouth line; below the loading dock is a large parcels office dealing with a very heavy volume of traffic.

The signalling at Newcastle Central is at present in a transitionary stage of conversion from electro-pneumatic semaphores to colour lights operated from a central route-setting panel, similar to the York installation. At the time of writing all the semaphore signals in the station area have been replaced by colour lights with route indicators; these are still controlled from the existing three station signalboxes. Eventually the working of these three boxes and that at Manors will be transferred to the new central signal box on platform 9. This scheme was originated before the war, as was that at York, by the L.N.E.R. but the actual work was badly delayed by circumstances and will be completed towards the end of this year. Electro-pneumatic operation of the points and signals was installed by the North Eastern Railway in 1909 and one of the features of the scheme

was the operation from No. 3 signalbox of the massive gantry at the west end of the station, which had originally 57 arms on 25 posts, later modified to 43 arms on 16 posts, and was one of the largest in the country.

To-day, in the interim period before the new signal cabin is opened, the working of Newcastle Central is controlled by three separate boxes. No. 3 is sited beyond the junctions at the west end and overlooks the lines to and from the platforms and goods roads. It has a large frame of miniature levers manned by three signalmen, assisted by two lads who do the booking, while a traffic regulator supervises the working. The boxes on either side of No. 3 are King Edward Bridge, Forth Junction on the Carlisle line, No. 2 in the station centre and No. 1 at the east end of the goods lines.

It will be seen that No. 3 controls several conflicting traffic routes and careful regulation of the working is necessary. For example, the lines from Forth Junction approach No. 3 on a sharp gradient and checks to a heavy freight train on this gradient are best avoided; yet a freight train on this line would be routed to the goods avoiding lines past the station, which means that it must cross the paths of all traffic to and from the King Edward Bridge, except from the up goods avoiding lines, so that an appreciable time interval between other traffic must be sought for this kind of movement.

No. 2 signalbox is in the centre of platform 8 and controls platforms 8 and 9 and the intervening sidings; the station announcer's room adjoins the box and the announcer receives train working details from the signalman. Finally, No. 1 signalbox is situated on a portal structure over the running lines beyond the end of platforms 9 and 10. This box is the busiest of the three as it controls, in addition to the traffic passing through from No. 3 and No. 2 signalboxes, the electric services starting at the east end of the station. No. 1 is worked by a staff of eight; four signalmen work the frame of 198 miniature levers (62 are spare), while a fifth man works the block instruments and bells, two lads do the booking and a regulator supervises the operation of the traffic. As at No. 2 and No. 3, there is an illuminated track diagram and all lines are fully track circuited.

The layout controlled from No. 1 is very complex and here again there are conflicting flows of traffic. The South Shields electric service and the Middlesbrough trains, which terminate at Newcastle, have to cross the north main lines carrying both passenger, goods and empty stock trains; similarly the electric trains to and from the Tynemouth lines have to cross on to the up and down north main lines before reaching their platforms, although they can do so without affecting trains to or from the High Level Bridge. An interesting feature of the working is that between Newcastle No. 1 and Manors the up and down north main lines are signalled for working in both directions, which is of considerable assistance at peak periods, or when train working is such that delays can be avoided by running in the opposite direction over these lines.

Newcastle is the centre of the Tyneside industrial area and conurbation and Central station is therefore the focal point of railway working in the area. Passenger traffic falls into certain broad divisions: residential local electric services to Tynemouth and South Shields and steam services to Newbiggin; medium-distance passenger diesel m.u. services to Middlesbrough and Carlisle; and long-distance express passenger services by the East Coast Route trains and to other provincial centres. The electric lines north of the Tyne comprise the circular route from Newcastle to Tynemouth, outward via Gosforth and returning via Wallsend; the Riverside loop leaving the southern part of the main circle between Manors and Heaton and rejoining at Percy Main; and the section of the north main line from Heaton to the junctions at Benton. The South Shields service was not electrified until 1938 and makes an eleven-mile run. It takes the High Level Bridge route as far as Pelaw, whence it leaves the main line to Sunderland to make for Hebburn, Jarrow and Tyne Dock and the terminus at South Shields. Both the Tynemouth and the South Shields cars are based on Gosforth sheds, although certain sets stable away from the depot at various times.

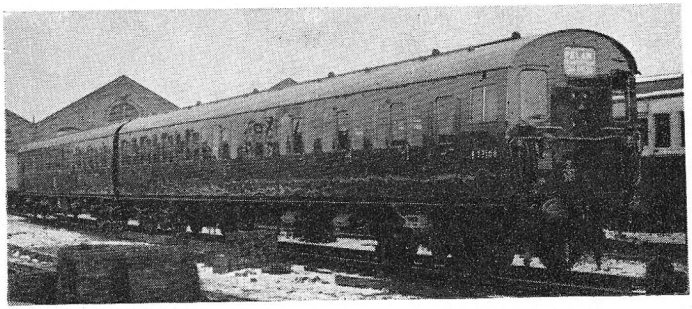
Tynemouth trains are formed of stock built in 1938, comprising an original total of sixty-four twin articulated sets and four electric parcels vans. The twin-units are of varying types enabling trains to be formed of two, four, six or eight cars. In the off-peak period the trains are generally a single twin-unit, but longer trains appear at the rush-hour, which starts quite early at Newcastle with travellers to the various shipyards and docks on the Tyne. There is a basic ten-minute departure from Newcastle to Tynemouth and back during the day by each route alternately, so that there is a twenty-minute interval service in each direction. Tynemouth, Cullercoats, Whitley Bay and Monkseaton are residential areas and in the morning and evening peaks there are a few express services in both directions. Very few trains use the Riverside loop, and these only operate in the peak period.

Until 1955 the South Tyne service to South Shields was operated by old stock displaced from the Tynemouth service in 1938, but this has now been entirely

PACIFICS AT CENTRAL

Above: Class "A4" 4-6-2 No. 60009 *Union of South Africa* makes a sure-footed start from the curving No. 8 platform with the northbound "Flying Scotsman" on May 17, 1954. [*Eric Treacy*

Below: Class "A1" 4-6-2 No. 60121 *Silurian* arrives in No. 8 platform from the south with an express for Glasgow on April 28, 1956. [*J. D. Smith*



★ A two-car unit of 1951 electric stock built at Eastleigh works for the Tyneside area. [*L. Elsey*

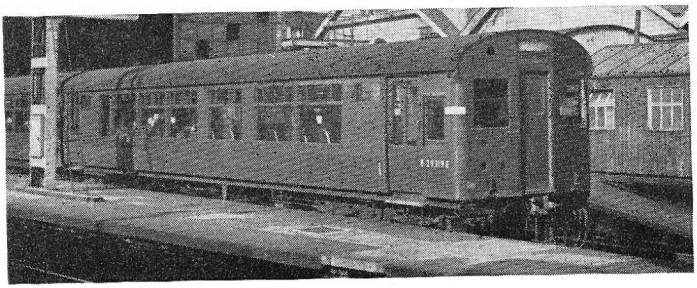
replaced by new stock built at Eastleigh. Trains for South Shields leave Newcastle every 30 min. during the off-peak, although there are some minor variations in the even half-hour interval and during the peak there are additional trains. Apart from an early morning and an evening train formed of North Tyne stock, the service is maintained exclusively by the Eastleigh sets. Despite the convenience of the Newcastle electric suburban service, because of poor public support it became necessary a few years ago to curtail some evening off-peak services. However, the service is well supported at other times and there are a number of cheap fare facilities between stations and additional cheap tickets to the coast in the summer. Extra trains run to the coast stations at summer week-ends and on Bank Holidays.

Newcastle is the centre of two diesel multiple-unit schemes. Expanding trade and industry in Tyneside, Wearside and Teesside and the importance of Newcastle as a shopping and entertainment centre for residents in these areas indicated a new traffic potential that diesel units might attract. The service over the 47 miles between Newcastle and Middlesbrough is a fast one and as several intermediate stations are served, it was decided to use four-car units with a seating capacity for 20 first and 206 second class passengers. These units, together with a small number of two-car units, are formed into four, six or eight-car trains and were built at Derby and by Metro-Cammell.

Trains leave Newcastle Central for Middlesbrough at 15 min. past the hour from 8.15 a.m. until 8.15 p.m., then at 9.25 p.m., with additional trains at certain other periods. With seven intermediate stops the journey to Middlesbrough takes 76 min., an improvement of from 12 to 22 min. on the old steam timings. The return workings from Middlesbrough are at 36 min. past the hour, arriving at Newcastle at 53 min. past the following hour; in most cases the trains turn round in 22 min., to return at 15 min. past the next hour. The units are stabled at Gosforth car sheds, which is being extended to accommodate the Newcastle-based diesel units. Some are housed at Middlesbrough overnight, but the workings are arranged so that they stable at Gosforth on the following night.

Following the Middlesbrough scheme, the next line to be converted was the cross-country route through Hexham to Carlisle, a distance of 60 miles. This service passes through a less populated area than the Middlesbrough service, but as far as Hexham, 20 miles from Newcastle, there is a fair amount of traffic. From Hexham on to Carlisle there is a less frequent service, at about two-hourly intervals, but trains to Hexham are mostly hourly, with additional workings at certain times. Two and four-car units of Derby and Metro-Cammell sets are in use, again stabled at Gosforth Depot.

A possible development of these two diesel services is the introduction of through working between Middlesbrough and Carlisle, which may result in a better utilisation of the units and simplify operating at Newcastle Central. The through



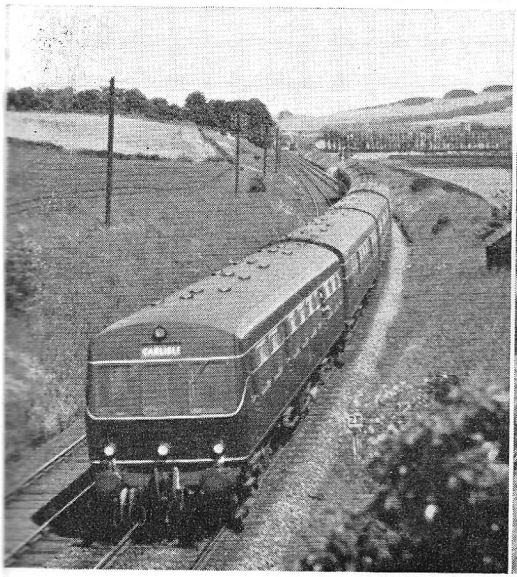
★ A driving trailer of the 1937 Tyneside stock in one of the east end bays at Newcastle Central. The white stripe on the corner pillar of the car assists passengers to locate first class accommodation.
[*British Railways*

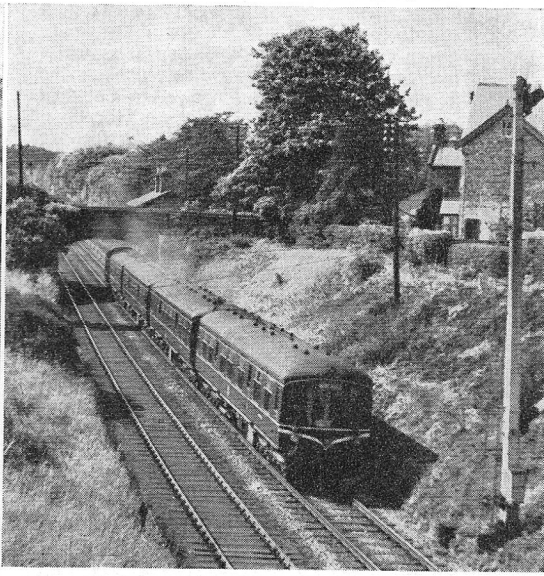
trains would be able to use one of the three through platforms, and if this was not always practicable because of occupation by important East Coast trains, they could reverse in the west end bay platforms and reach the Middlesbrough route by the King Edward Bridge.

At present the following units are allocated to Gosforth for maintenance: five Derby four-car sets; four Derby two-car sets; three Metro-Cammell two-car sets; and six Metro-Cammell four-car sets. Of the Metro-Cammell trains two two-car sets and one four-car set are at present at Darlington. Also stabled at Gosforth are fifteen two-car sets; two twin-units each of two power cars; and two four-car sets. The trains are operated by crews from Heaton and Gateshead as important intermediate centres on the routes of these trains, such as Sheffield and Leeds.

A feature of British Railways passenger services is the early morning train for businessmen making return journeys to places up to 250 miles and more away. Thus the Tyneside businessman can leave Newcastle at 8.0 a.m. for London; at 8.15 for York, Sheffield and Birmingham; at 8.55 for Leeds, Manchester and Liverpool; and again for London at 9.25 by the "Tees-Tyne Pullman". In the opposite direction all of the destinations mentioned have similar services to Newcastle with late-afternoon return trains.

During the night the station is busy with the now expanded service of sleeping car





★ One of the diesel multiple-unit services radiating from Newcastle Central is that on the Carlisle line. These pictures show (**left**) the 1.20 p.m. (SO) Newcastle–Carlisle, formed of Metro-Cammell units, climbing away from Haydon Bridge; and the 3.45 p.m. Hexham–Newcastle, formed of Derby lightweight cars, leaving Riding Mill, both on June 22, 1957. [*R. Leslie*

steam depots and in addition crews from Carlisle, Middlesbrough, Hexham and Blaydon work to Newcastle.

The most important main line steam services are the passenger trains over the East Coast route. With the sole but noteworthy exception of the King's Cross–Edinburgh non-stop "Elizabethan", all of them stop at Newcastle Central, if only for operating purposes in some cases. In addition there are a number of expresses between Newcastle and other provincial centres throughout the year, which are of particular benefit to businessmen. It is possible to travel by through service to such varied destinations as Colchester, Cardiff, Bristol, Manchester and Liverpool, as well

trains. The first of these to be dealt with is the 10.55 p.m. "Tynesider" for King's Cross, which starts from Newcastle; only sleeping-car passengers are now conveyed by this train. The first down sleeping-car train to arrive is the 7.45 p.m. from King's Cross with coaches for Elgin, Aberdeen and Fort William. The new 10.15 p.m. "Aberdonian" and 11.35 p.m. "Night Scotsman" from King's Cross stop only to change engines, but the 7.45 p.m. from London detaches newspaper traffic; also in the up direction the 8.35 p.m. from Aberdeen and 10.50 from Edinburgh stop only for locomotive purposes. Another feature of operations made possible by the extension of lodging turns between Newcastle

and King's Cross, is the longer non-stop runs now achieved by withdrawing intermediate stops not necessary for traffic purposes, giving greater passenger comfort and improved operating. The departures from Newcastle at 1.3, 1.18, and 2.52 a.m. are all non-stop to King's Cross, while the 10.55 p.m. "Tynesider" is non-stop from Darlington; there are similar down departures at 10.15, 11.20 and 11.35 from King's Cross, arriving at 2.59, 4.20 and 4.44 a.m., but the down "Tynesider", due at 6.27 a.m., calls at Darlington and Durham *en route*. Both King's Cross and Gateshead depots work through between London and King's Cross.

The first important day train is the previously mentioned 8.0 a.m. to King's Cross, worked through by Gateshead men to London, where it is due at 1.5 p.m., after a non-stop run up from York; after a brief layover of 55 min., the train returns as the 2 p.m. from King's Cross, due back at 7.16 p.m. Incidentally, most of the East Coast trains terminating at Newcastle are stabled or serviced at Heaton Carriage Sidings and as far as practicable the empty train is worked to or from Heaton by the main line train engine. Several King's Cross engines are utilised in this way – for example, those on the up "Tees-Tyne Pullman", the 9.55 a.m. to King's Cross and 7.56 p.m. arrival. The King's Cross crews take over the engine from Heaton relief men at Newcastle and hand over on arrival in from London. This arrangement is, however, somewhat complicated on Fridays because of the different Saturday return workings. After the 9.25 a.m. Pullman has gone the next up train is the 9.55 a.m., due in King's Cross at 3.8 p.m., and forming the 5.35 p.m. down; the 9 a.m. from King's Cross, due at 1.57 p.m., goes out to Heaton to form the 5.5 p.m. back to King's Cross. Of the King's Cross–Newcastle sets, only the "Northumbrian" sets (12.30 p.m. down and up) do not complete a round trip each day, as the arrival times are unsuitable for further utilisation.

The through day trains to and from Scotland, with one exception apart from the summer "Elizabethan", all change engines at Newcastle. A Gateshead engine works the 6.40 a.m. from York to Edinburgh throughout, although its crews are changed at Newcastle; the diagram starts with an early train from Newcastle to York and is completed with a return trip from Edinburgh as far as Newcastle. Newcastle is unique in that all main motive power depots between Edinburgh and London have workings to Tyneside.

On arrival at Newcastle engines of down arrivals uncouple and, according to their next working, either run over the High Level Bridge to Gateshead, where they turn on the Greensfield Junction triangle, or head out to Heaton. Engines coming off shed run up light from Heaton, or from Gateshead via the High Level or King Edward Bridges. For an up train an engine from Gateshead will either wait on the King Edward Bridge near No. 3 signalbox until the incoming engine has been detached and then back into the platform; or, if the train is late, it will run into the sidings between the through platforms Nos. 8 and 9 (known as "A.B." sidings) to await its arrival.

The principal King's Cross engine workings are on the Newcastle arrivals at: 12.27 p.m. (SX), returning at 10.55 p.m.; 2.44 p.m., returning at 1.55 a.m.; 7.56 p.m., returning at 9.25 a.m. (12.18 p.m. SO); 10.21 p.m. (goods), returning at 9.55 a.m.; 8.31 p.m. (SX), returning at 10.43 a.m. (SX, 8.0 a.m. SO); 9.32 p.m., returning at 12.18 (SX, 12.30 SO); 4.20 a.m. (MX, 2.59 MO), returning at 5.5 p.m.; and 4.44 a.m. (MX, 6.27 MO), returning at 7.25 p.m. There are in addition balancing turns on Sundays. King's Cross shed uses "A1s", "A3s" and "A4s" on its Newcastle turns, which include most of the faster trains such as the "Tees-Tyne Pullman" and "Fair Maid" in both directions, the down "Talisman" and the fast 5.5 p.m. up.

The remainder of the through workings to London are covered by Gateshead and are services at: 10.55 p.m. (MO, 11.20 p.m. MX) to King's Cross returning from there at 5.35 p.m.; 1.3 a.m., returning at 7.45 p.m.; 1.23 a.m., returning at 10.15 p.m.; 1.33 a.m., returning at 10.30 p.m.; 8.0 a.m. (SX), returning at 1.0 a.m. (MX); and 6.13 p.m. (SX), returning at 10.10 a.m. Again there are Sunday balancing turns.

Heaton, Gateshead and Haymarket (Edinburgh) engines work the principal trains between Newcastle and Edinburgh. The rosters are too intricate to be included in full and only the more important trains can be mentioned. Haymarket powers the up "Fair Maid" and the down train at 12.33 p.m., also the up "Talisman" due in at 6.7 p.m. and the down train out at 8.37 p.m., in each case with the same engine. Two other similar workings include the up "Glasgow" due 1.22 p.m., returning with the down train at 3.25 p.m. and the up and down "Heart of Midlothian", due at 3.47 p.m. and returning north at 6.15 p.m. A number of the night trains are worked by Haymarket, but only one engine has two round trips to Newcastle in a day; this is the "Fair Maid" engine, which also covers the 10.50 p.m. from Waverley and the 1.10 a.m. back from Newcastle. "The Flying Scotsman" and the "North Briton" are covered by Gateshead in each direction, while Heaton powers the "Queen of Scots".

Of the other express passenger services, the longest-distance train is the 312-mile

through service to Cardiff, which has an interesting origin. In 1906 the Great Central Railway, with the collaboration of the Great Western and North Eastern, originated a through service between Tyneside and South Wales via York, Sheffield, Banbury and Gloucester. Over the years a number of changes of detail were made in this working, but in 1951 the service was radically altered to run between Gloucester and York via the Derby–Bristol main line instead of the G.C. route. Two sets of stock are required for it and they are stabled overnight at Cardiff and Heaton on alternate days; a W.R. train and restaurant car staff work in on Mondays, Wednesdays and Fridays, returning on Tuesdays, Thursdays and Saturdays, and a similar arrangement applies for the balancing N.E.R. set. Until quite recently the W.R. set had ex-G.W. coaches, but it is now formed mostly of B.R. standard stock, including the kitchen-first. The N.E.R. train also comprises standard stock, with the exception of the kitchen-first, which is usually a pre-war L.N.E.R. vehicle, although on occasions a post-war anthracite-electric kitchen-first has been used.

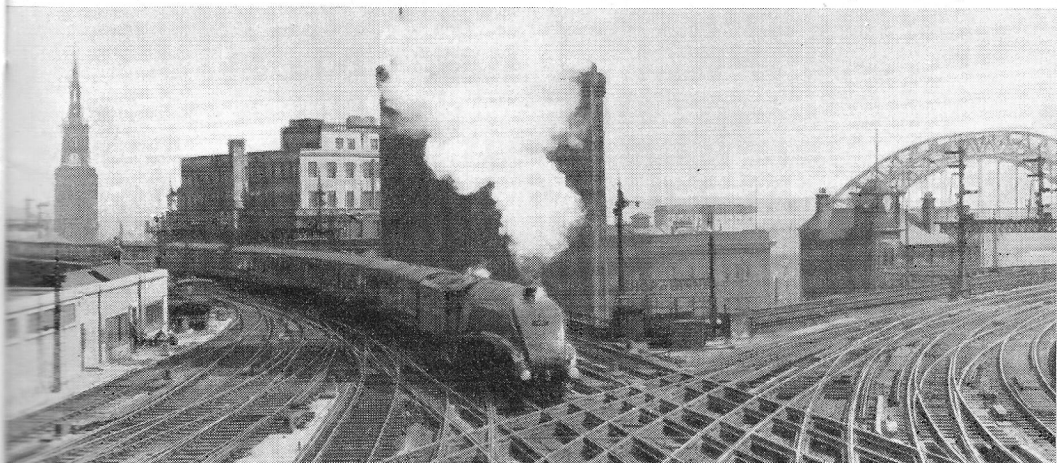
Following the same route as this train are the through services to Birmingham and Bristol. There is a through restaurant-car train to Bristol at 12.45 p.m. and a night mail service at 7.5 p.m., and although both of these trains and the Cardiff service all serve Birmingham, there is also an afternoon train leaving Newcastle at 3.34 p.m. for the Midlands city. Except for the Birmingham service, which is formed of a morning arrival, all of the other trains are stabled either at Heaton or, in the case of the mail, at Low Fell sidings.

Liverpool is served by four daily through trains leaving at 8.55 via Harrogate, 10.5 via the coast and York, 4.15 p.m. via the coast and Harrogate, and 5.10 p.m. via York. Arrivals from Liverpool are at 1.40, 4.18, 7.0 and 9.59 p.m. Two train sets, both with refreshment facilities, stable at either end of the service; the two Liverpool trains are of L.M. stock, while the two N.E. sets stable at Scotswood Bridge and Heaton. There is one interesting working in the Liverpool service – the 4.18 arrival, which stays in Newcastle Central to form the 5.15 p.m. back and is the only long distance steam train using the station which does not go out to the sidings for servicing.

These cross-country trains provide useful services for Tyneside businessmen and valuable connections for Scottish passengers. Various sheds work them, including the two Newcastle depots, York and Leeds (Neville Hill). A Leeds "A3" comes in with the 3.49 a.m. newspaper train from Manchester and takes the 10.5 a.m. to Liverpool as far as Leeds, whence it starts a second return trip to Newcastle with the down "Queen of Scots", returning with the up "North Briton". A second "A3" arrives at 1.40 p.m. to return with the 4.15 p.m. Liverpool.

Many freight trains have to be worked across and through the station area, with which this article is primarily concerned. Freight through industrial Tyneside is very heavy and a number of the trains stop on the goods lines in the Central station to change crews, as this is the only route through Newcastle for several flows of traffic. Heaton Up and Heaton Down Yards are the main yards for through East Coast trains. Heaton Up receives trains from the north main line and forwards to the south and to local yards; Heaton Down yard comprises the New Yard, which makes up trains for the Scottish Region, and the North yard dealing with traffic for the Riverside depots, the Blyth and Tyne area and north main line local stations. On the Carlisle line Addison Yard deals with westward coal traffic, mineral empties and

★ The famous diamond crossings north of Central station, Newcastle-on-Tyne. A Class "A4" Pacific approaches with an express from the Edinburgh direction. [*British Railways*



traffic for the Carlisle line stations. There are two important goods depots at Forth and New Bridge Street.

Regulation of freight traffic in the area is by the Newcastle District Control office, which governs the main line between King Edward Bridge and Berwick, the Carlisle line to just beyond Scotby and all lines north of the Tyne within this area.

Mention has been made of the two main motive power depots at Newcastle, situated at Heaton and Gateshead, both of which cover main line passenger and freight services, local trains and the more recently introduced diesel multiple-units. Heaton is situated near the carriage sidings and marshalling yard area and extends from the electric lines on the Tynemouth loop to the north main line. With 102 engines it has the larger allocation of the two sheds, but covers more freight trains than Gateshead, as can be seen from the following allocation:

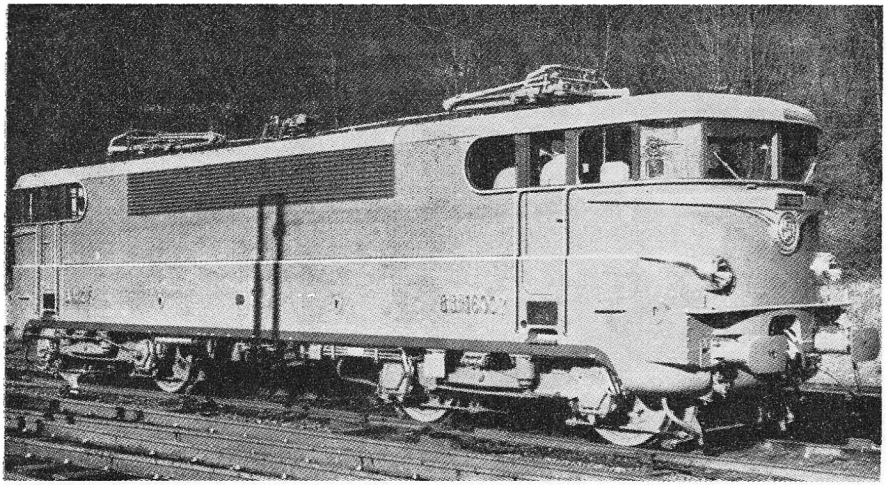
	4-6-2	V2	B1	B16	K3	V1/3	J21/ 25/27	J39	J71/ 72/94	N10	Diesel Shunter	Total
HEATON	A1– 3, A2– 3 A3–11	18	—	7	9	16	10	15	9	1	4	106
GATESHEAD	A4– 9, A3–10 A1–14, A2– 4	12	4	—	—	7		4	15	4	—	83

Heaton main line engines run north as far as Edinburgh and south as far as Peterborough, although the enginemen do not work south of Doncaster; there are also workings to Leeds. The engine working to Peterborough starts out with the empty up "Northumbrian" from the carriage sidings and stays on the train as far as Peterborough, returning with the Colchester–Glasgow as far as York and onwards from there with a parcels train. Other Pacific workings are arranged so that most of the engines cover two round trips either to York, or to York and then through to Edinburgh. There is also an "A1" diagram covering a double Edinburgh trip, a total of 500 miles per day; this engine, manned throughout by Heaton men, covers the 7.0 a.m. from Newcastle, the up "Queen of Scots" due back at 2.13 p.m. and with a second crew the down "Queen of Scots" and the 11.5 p.m. from Edinburgh.

The range of the Gateshead Pacific diagrams is wider than those of the Heaton engines, since the former cover the whole of the East Coast route between Kings Cross and Edinburgh, as the men work through both to King's Cross and Waverley. There is an interesting background to the lodging turns now worked by the Gateshead men. When it was found desirable in 1949 to re-introduce these turns, which had been suspended during the War, there was some opposition from the men and the proposal was dropped. However, in the following year a single night lodge turn to King's Cross was introduced, worked by a special volunteer link of three men. This situation lasted until 1956 when, with the introduction of the "Talisman", Gateshead accepted a second turn involving this train and the 10.10 a.m. from Kings Cross. With the men's agreement further turns were added with the introduction of the 1957 train service improvements. The passenger lodge link is the senior one at the depot and "A1s" and "A4s" are rostered for the Kings Cross through turns.

Some interesting examples of engine utilisation are found on these duties. Most of the engines on the night jobs to London arrive back in Newcastle in the early hours and the engines then cover an intermediate trip to either York, Leeds or Edinburgh before a further trip to London. For example, the engine of the 10.15 p.m. from Kings Cross, due in Newcastle at 2.59 a.m., next works to Edinburgh with the down "North Briton" at 11.27 a.m., returning from Edinburgh with the up train due back at 7.42 p.m. The engine then returns to Kings Cross at 1.3 a.m., spends the day on Kings Cross shed, and travels back at 10.15 p.m. to Newcastle. The engine arriving at Newcastle at 4.1 a.m. starts out again to Leeds on the 2.35 p.m., returning to Newcastle at 9.59 p.m., then heads for Kings Cross at 1.33 a.m., returning at 10.30 p.m. The fill-in for the up "Talisman" turn is a Class "C" freight to York and back, while the final set of turns on this basis is with the 1.19 a.m. arrival from Kings Cross; this engine works the 12.40 p.m. on to Edinburgh, returns on an express freight due at 8.43 p.m. and then goes to London again at 1.3 a.m., returning from there at 7.45 p.m. It will be seen that two engines are required for each working. Another Pacific turn worth mention is one covering the 2.28 a.m. departure from Newcastle as far as York, the 6.40 a.m. from York through to Edinburgh (changing crews at Newcastle) and the 4.35 p.m. Aberdeen–London fish as far as Newcastle.

The "A2s" and "V2s" are used on certain passenger and parcels trains, but mostly on freight trains, although an "A2" has been noted on the "Talisman". Gateshead's "B1s" are employed mainly on the Carlisle line on parcels trains and the balance of the allocation are used on work appropriate to their class. In this short review of the Gateshead and Heaton engine workings it has not been possible to include every duty, but only the more important and interesting items.



★ New S.N.C.F electric locomotive No. BB–16002 (*see this page*)

NEW IDEAS FROM OVERSEAS

French dual-frequency locomotives

LAST month we commented on the new railway frontiers that are springing up due to the adoption of differing electrification systems and observed that the French Railways were taking special steps to overcome the barrier between their spreading 25 kV. a.c. 50-cycle system and the electrifications of contiguous railways – for example, the Swiss Federal 15 kV., $16\frac{2}{3}$ cycle system which is encountered at Basle. One of these S.N.C.F. steps, to permit through running from one country to another, is the ordering of four prototype Bo-Bo locomotives that can operate on either frequency. These four locomotives are of two types, externally similar, but Nos. 30001/2 have a.c. motors and Nos. 30003/4 rectifiers and d.c. motors; the latter two also break new ground in having single-motor bogies, which are thus of shorter wheelbase, and are expected to result in improved ventilation and a consequent reduction in the motor-blower load for a given locomotive horsepower. Both types of locomotive operate on either input without alteration of the connections to the main transformer, and the only switching that takes place when a voltage change is encountered concerns the motors supplying auxiliary equipment, and that change is made automatically. When a driver approaches a neutral section separating sections of 25 kV. and 15 kV. overhead catenary, he trips the main circuit breaker but leaves his pantographs up; as soon as the next section of live wire is reached he re-sets the circuit-breaker, whereupon voltage-sensitive relays automatically make the appropriate connections to the auxiliary circuits. The avoidance of dual-voltage switching in the main circuits results in some loss of performance on the lower voltage and frequency, but this is unimportant when set against the advantages. For example, Nos. 30001/2 are rated continuously at 4,350 h.p. at 57 m.p.h. when working on 25 kV., but at 4,280 h.p. at 56 m.p.h. when working on 15 kV.; and Nos. 30003/4 at 4,880 h.p. at 59 m.p.h. on 25 kV., but at 3,920 h.p. at 44 m.p.h. on 15 kV. Each locomotive weighs 83 tons 12 cwt. and is capable of a maximum speed of 99 m.p.h.

Another new French electric locomotive recently underwent speed tests between Strasbourg and Basle. This was No. BB-16001, the first of 51 25 kV. 50-cycle a.c. electric locomotives with ignitron rectifiers for the S.N.C.F., and an 82 tons 12 cwt. Bo-Bo type with a continuous rating of 4,920 h.p.; it is due to be one of the French showpieces at the forthcoming Brussels exhibition. The object of the trials was to ascertain whether a 70-minute timing could be scheduled for a six-or seven-coach train over the 88.2 miles between Strasbourg and Basle without need to exceed the prevailing speed limit of 87 m.p.h.; it was also desired to examine the behaviour of the new Faiveley-type pantographs with which No. BB-16001 is fitted at speeds up to 100 m.p.h. on the electrified lines in Alsace. In the event the new locomotive ran a 295-ton

★ The Budd-built "Roger Williams" multiple-unit of the New Haven R.R. on the outskirts of Boston, Mass., in September, 1957 (*see this page*). Each car is fitted with two 300 h.p. engines; the roof-top "blisters" house the air intakes, radiators, cooling fans and exhausts of the engines. [*J. N. Westwood*

train from Strasbourg to Basle at a start to stop average of 85.7 m.p.h., being allowed up to 100 m.p.h. at one point but otherwise keeping close to the existing speed limit; at the maximum speed, which was achieved uphill, the locomotive was only on 85 per cent of its full power.

Another new rolling stock development under way in France is the construction of ten new diesel railcars with seats for 88 which will incorporate an observation "Vistadome" upper deck, on the American pattern. These cars are expected to appear this summer and will be used in the scenic territory of the Riviera and the Massif Central. The S.N.C.F. now operates close on 1,000 diesel railcars of different types. In connection with the installation of Centralised Traffic Control over lengthy sections of busy main line, the S.N.C.F. is developing a radio system that will keep drivers in constant telephonic communication with the C.T.C. operators and enable conversations to be carried on while the train is in motion.

Two-in-one locomotives

SOME interesting developments in dual power systems are taking place on the New Haven Railroad of the U.S.A. The complicating factor of this system's operations is that it uses the Grand Central Terminal of the New York Central R.R. in New York City, from which, and from the tunnel under Park Avenue that leads to it, steam and diesel locomotives (or, in the latter case, multiple-units) are barred by law, to obviate fumes. The entrance to the terminal is therefore electrified at 600 V. d.c. The New York Central still changes locomotives from one form of traction to the other at the approach to the city, but the New Haven considers it more economical to develop two-in-one traction units that can operate as diesels or as straight electrics.

For its lightweight "Daniel Webster" train the New Haven obtained in 1956 some 1,000 h.p. diesel-hydraulic locomotives by Baldwin-Lima-Hamilton with Mekhydro transmission (the New Haven, incidentally, runs them one at each end of the "Daniel Webster" to cut turn-round time at terminals), which also incorporated two 150 h.p. d.c. electric motors in the leading bogie of each unit. An ingenious arrangement enabled the diesel drive to be cut out and the electric drive substituted, with retractable pick-up shoes lowered to collect current from the third rail, over the New York electrified section. The comparatively low power of the electric traction equipment was considered adequate for the speeds normal over this section.

Next the New Haven acquired some high-speed six-car multiple-units by Budd, based on that firm's highly successful "RDC" railcar, for use on the "Roger Williams" service between Boston and New York.

These units are normally diesel-hydraulic, with a high performance that achieves acceleration from rest to 65 m.p.h. in 2 min. on level track, and to 110 m.p.h. in 7 min., but here again means are provided for straight electric operation in the third-rail area. Each powered bogie has on one of its axles a low-power electric traction motor with retractable pick-up shoes, with the aid of which it can reach a balancing speed of 58 m.p.h. on level track. The driver's controller governs both the diesel and the electric drive, and the changeover from one form of traction to another is made in motion, though it must not be done at above the direct drive speed of 50 m.p.h. in the case of a change from electric to diesel power.

The latest New Haven development is of even more interest, for 15 new 3,500 h.p. diesel twin-unit locomotives of Type FL-9 obtained from the Electromotive Division of General Motors can work as diesel-electrics or straight electrics, using the same traction motors thanks to modification of the dynamic braking resistors for traction control and a new system of automatic controls. When the locomotives are leaving New York the driver sets off with pick-up shoes down to pick up from the third rail, working as a straight electric; near the end of the electrified section he starts up the two 1,750 h.p. diesel engines, one in each unit, and without reducing speed operates the changeover control to cut out the current feed from the third rail and switch in that from the diesel-generator sets; his last act of the changeover is to retract the air-operated folding pick-up shoes, as the train clears the third-rail section.

It remains to be added that the New Haven Railroad also has its own electrified sections working on the 11,000 V. a.c. overhead system and operates electric locomotives and multiple-units that can work both with this and on the N.Y.C. 600 V. d.c. third-rail system in the course of the 72-mile run from Grand Central to New Haven. Here again the changeover from one system to another is made without stopping the train.

Modern U.S. marshalling

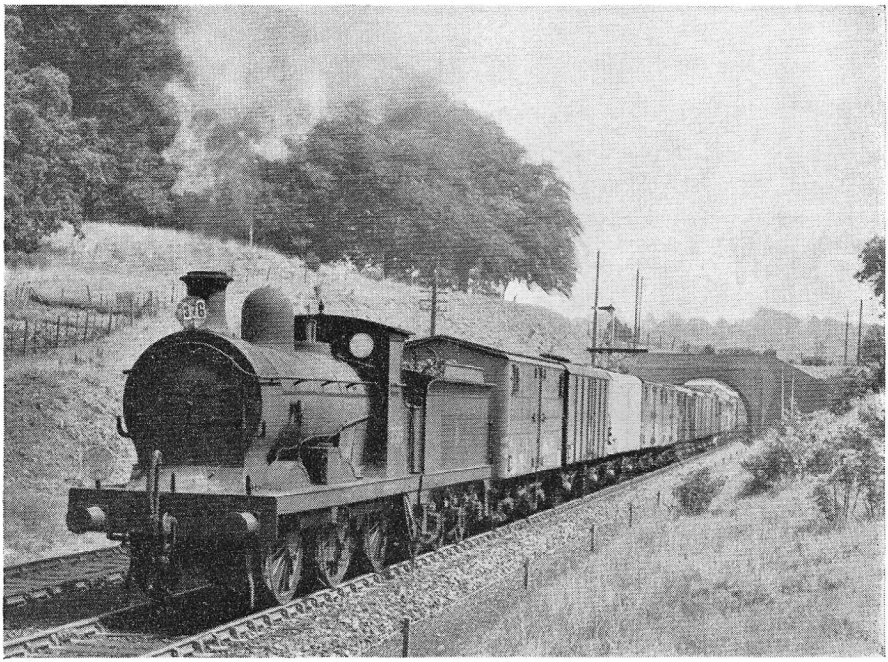
THE many readers who expressed appreciation of our recent article on the new Thornton Yard of the Scottish Region may be interested in comparing its apparatus with what has been supplied for a vast new yard of the New York Central R.R. at Elkhart, Ind., the junction of routes to Chicago from Detroit and from New York, Cleveland and Toledo. The new installation, which has been named the Robert R. Young Yard after the railroad "king" who recently committed suicide, cost $14 million and is some four miles long; it replaces a dozen other yards in the locality. A receiving yard with 15 tracks and a 1,954-car capacity funnels traffic on to the hump, from which the exit road fans out into 72 sorting sidings, in eight groups, with a total capacity of 3,540 cars; at the far end the exits from these groups of sidings lead, half to westbound departure

★ The lightweight "Daniel Webster" express of the New Haven R.R., with a 1,000 h.p. Baldwin-Lima-Hamilton diesel-hydraulic power unit at each end (see *page* 266).

tracks, and half to eastbound departure tracks, which skirt the sidings on either side. The make-up of an incoming train is received at Elkhart by teleprinter from its point of origin before it arrives, but this is rechecked as the freight rolls in to the receiving sidings. A television camera is set up alongside the single entrance road and transmits on a closed circuit to the yard office; from his receiver a yard clerk reads off the numbers of the wagons as they pass the camera, and his list is recorded for playback and comparison with the advance teleprint. The siding to which each car is to be humped is then added to the details, which are fed into a memory machine that can store not only the switch list for one train, but for several at a time; this enables the yard office to work several trains beyond the one that is actually next to be humped. When humping of a train is to begin its switch list is called up from the memory unit and fed to the route-setting equipment, which automatically routes successive cuts into their predestined sidings.

The apparatus installed at Elkhart to control release speed from the hump is probably the most elaborate yet. Before a cut enters the primary retarder, just below the hump, a photo-electric cell assesses its length and it passes over treadles activating counters that deduce its average velocity; in addition, it is weighed. All this information is fed into a computer to determine the desired release speed of the cut in relation to its weight, length and rollability. As the cut enters the retarder it passes over radar apparatus that beams on to its rear end as it recedes down the hump, calculating the cut's actual speed, and this is compared by a complicated device with the electronically computed release speed, the difference being translated into the degree of braking pressure required from the retarder.

Before the cut enters the secondary retarder, in the neck of each group of sidings, its velocity is again measured as it passes over treadles and radar again checks its actual speed; in addition the information already gathered on its length and weight is automatically transferred from the primary retarder apparatus to the secondary retarder computer. Other information fed into the latter is the siding for

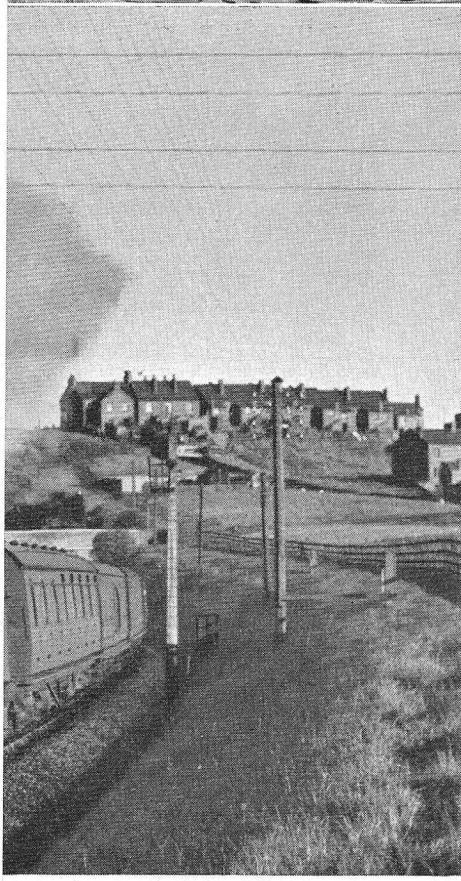


Above: S.R. Class "C" 0-6-0 No. 31589 passes Sandling with a haul of Continental wagons from the Dunkirk–Dover cross-Channel ferry on August 1, 1957. [K. L. Cook

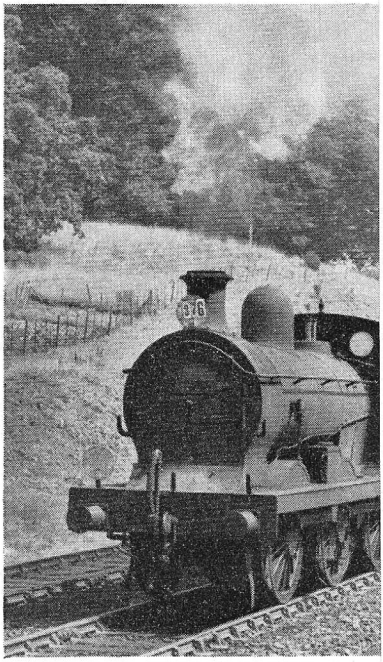
Right upper: Class "J15" 0-6-0 No. 65391 heads the 11.4 a.m. Cambridge–Colchester near Shelford on August 28, 1957. [*J. A. Coiley*

Right lower: A Nottingham–Mansfield train, headed by Class "3F" 0-6-0 No. 43711, emerges from Kirkby Tunnel, near Kirkby-in-Ashfield, in September, 1955. [*A. J. Clarke*

OLD-STAGERS



tracks, and half to eastbound depa
tracks, which skirt the sidings on either
The make-up of an incoming tra
received at Elkhart by teleprinter fro
point of origin before it arrives, but t
rechecked as the freight rolls in tc
receiving sidings. A television camera
up alongside the single entrance road
transmits on a closed circuit to the
office; from his receiver a yard clerk
off the numbers of the wagons as they
the camera, and his list is recorded for
back and comparison with the adv
teleprint. The siding to which each car

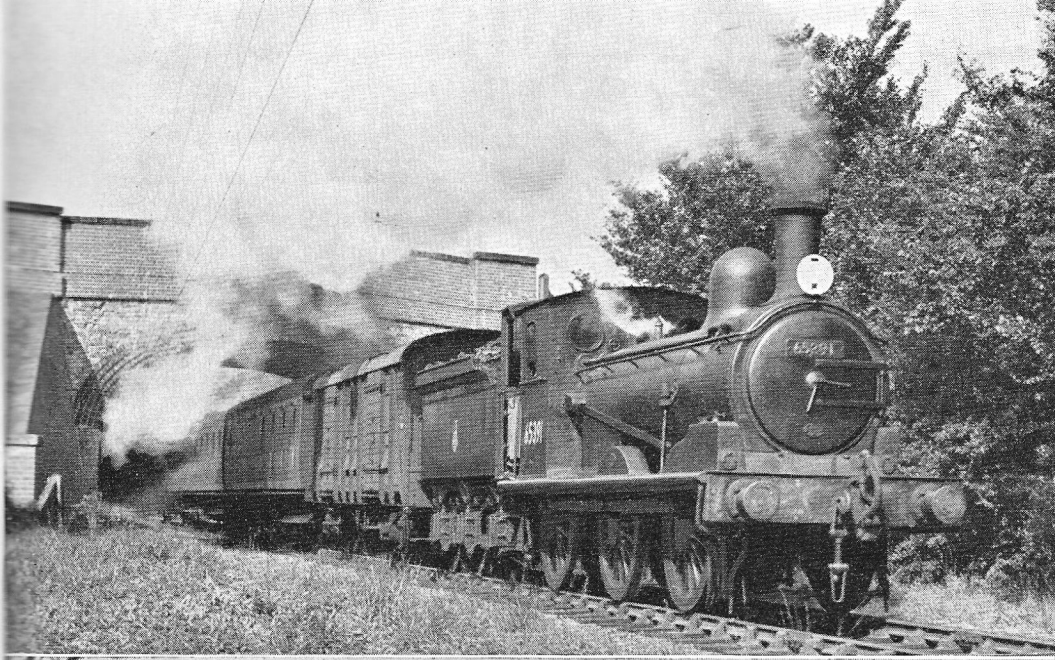


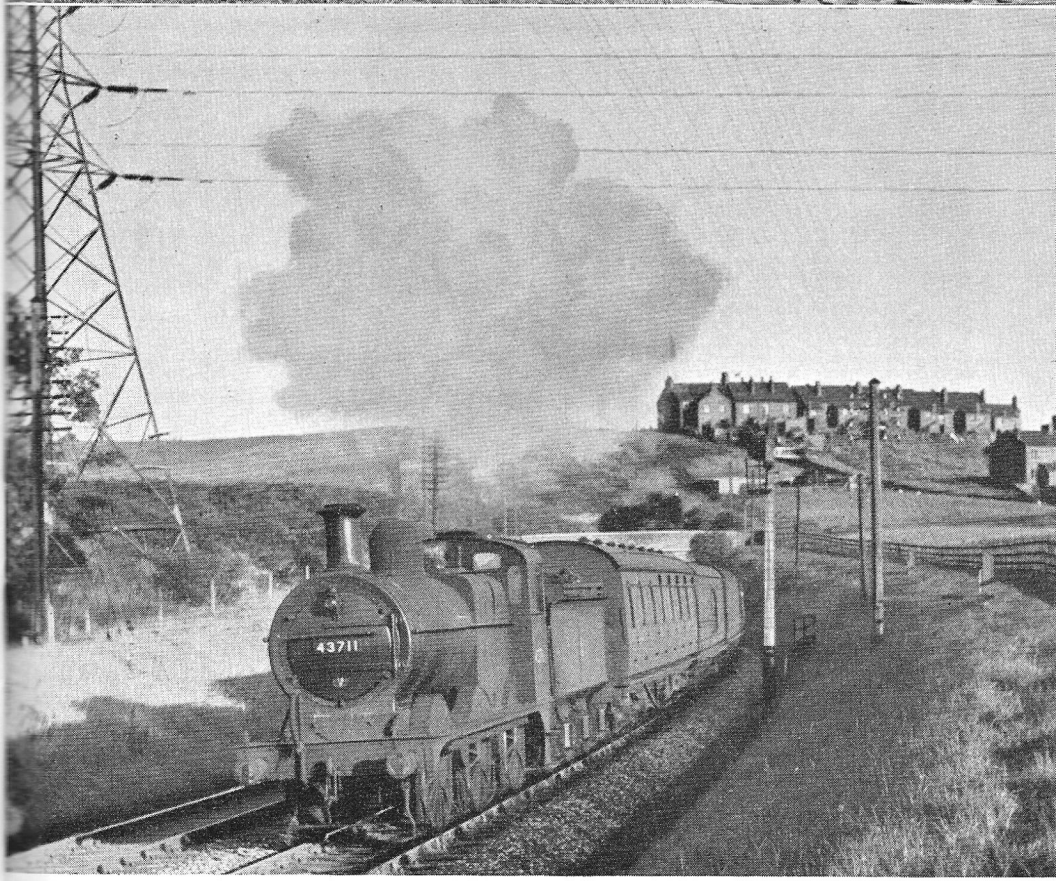
Above: S.R. Class "C" 0-6-0 No. 31589 passes Sandling with a haul of Continental wagons from the Dunkirk–Dover cross-Channel ferry on August 1, 1957. [K. L. Cook

OLD-STAGERS

be humped is then added to the de
which are fed into a memory machine
can store not only the switch list for
train, but for several at a time; this en
the yard office to work several trains be
the one that is actually next to be hum
When humping of a train is to begi
switch list is called up from the mei
unit and fed to the route-setting equipr
which automatically routes successive
into their predestined sidings.

The apparatus installed at Elkhar
control release speed from the hum


6301


43711

which the cut is destined (provided automatically by the route-setting apparatus) and the distance it has to run in that siding, which is provided by the retarder operator, based on information from lights on his desk; these are actuated by treadles in each siding, which count passing car wheels, and indicate in car lengths the distance remaining to the neck of the siding.

From all this detail the computer, it is claimed, ensures that the cut will be braked by the secondary retarder sufficiently to bring it up against other cars already in the siding at a speed within 0.2 m.p.h. either way of the optimum 4 m.p.h. at which the automatic couplers will engage without damage to the vehicles or their contents. (In pauses between trains, incidentally, the computer is continuously in action, setting itself test problems and checking the answers, to ensure it is functioning properly!) Finally, if for any reason a car should defeat this complex apparatus and stop short, the operator brings out of its spur a driverless, remote-controlled, battery-driven "mule" to push the offender down the siding, after which the mule is returned to its stable and humping is resumed.

New Reading for Railfans

BRITISH RAILWAYS PRE-GROUPING ATLAS AND GAZETTEER. *Ian Allan Ltd.* 21s.

For years we have needed a reliable and clear map of the pre-1923 railway system of this country and this admirable new publication seems to fill the need in every particular. Except for the fortunate possessors of Railway Clearing House maps of the period, we have had to thumb through endless volumes of magazine articles in the hope of discovering a relevant map to settle any arguments on pre-grouping ownership, but here is the whole picture in handy form and in numerous colours to make it readily intelligible. Every map has been specially prepared, and a great deal of detail beyond mere station names is included. Many important junctions are noted, as well as the more significant viaducts, tunnels and locomotive sheds. Needless to say, all the little remembered joint ownerships are faithfully indicated — in fact, we learn from the book's introduction, some 150 titles of railways, joint undertakings, committees and narrow gauge concerns extant at the time have been shown. A great amount of research has obviously gone into the Gazetteer section of the book, which most usefully shows every company with a stake in the ownership or use of each station listed. In short, this is one of the most useful reference books to appear for years.

STANDARD GAUGE LIGHT RAILWAYS. By R. W. Kidner. *The Oakwood Press.* 6s.

This new edition in the well-known Oakwood Press Light Railway Handbook series replaces the former Parts I and IV in the sequence. It is a compact reference book to the locomotives, rolling stock, opening and closing dates and other statistical detail of the Colonel Stephens and other standard gauge light railways in Britain, including those owned or worked by main line companies. The text is supported by useful maps and line drawings of rolling stock, and there are sixteen pages of interesting half-tone illustrations (rather strangely wrapped round, instead of folded within the text). The price seems somewhat high for 56 paper-backed pages.

LETTERS TO THE EDITOR

The Robinson "R.O.D." 2-8-0s

SIR, – I have been most interested in the various articles on the Robinson 2-8-0s and especially those which did service overseas. When I was commanding No. 6 Railway Operating Group R.E. in the Middle East during the latter part of 1941 and until the Battle of Alamein in 1942 I worked the Palestine Railways from Kantara to Gaza. We had 13 "R.O.D's". They were shipped out as coal burners but were soon converted to oil and did remarkable service under difficult conditions. Provided they were not pressed they would keep going at 20–25 m.p.h. all day long. The Sinai Desert is not flat like the Western Desert of Egypt, but is rolling sand dunes resulting in a continual switchback with gradients about 1 in 150. By contrast, the L.M.R. Class "8s" were not reliable. Their outside motion got clogged up in the sand storms and their steaming was too dependent on good coal or perfect atomization of oil.

Before the Palestine Railways were linked with the Syrian system by the building of the Haifa–Beirut–Tripoli line we assisted the Syrian Railways by sending some "R.O.D's" to Tripoli on landing craft, building a small slipway on the south beach of Tripoli where the railway was near, and hauling them off the craft. It was a tricky operation because as the locomotive left the craft and transferred its weight to the land, the craft rose and there was a critical point when the locomotive was resting on its pony truck and rear driving wheels only. I believe some of these eventually found their way to Turkey. They were all fitted with Westinghouse pumps, reservoir, driver's valve and pipe, but not brakes. One curiosity of them was a three-link coupling instead of the usual screw. They were painted light grey.

Hatch End, Middx. C. F. E. HARVEY.

SIR, – My late uncle was employed by the Sheffield firm, T. W. Ward & Sons Ltd. In the period 1927–28 I recall a batch of rusty ex-"R.O.D." engines passed through that firm's breakers yard at Birkenhead and they could quite easily be the 19 engines which have eluded Mr. A. G. Wells.

The engines had been sold, I believe, to China and were being prepared for shipment from Birkenhead Docks, the essential duty of the Yard men being to part the engines and tenders. This proved no simple task but continual soaking in grease of the pipes and couplings eventually parted all engines and tenders without damage.

Despite their rusty condition the sturdy

construction of the engines was admired by the tough ship breakers, the memory lingering that my uncle thought there was little amiss with the engines that new paint and lubrication would not put right.

Preston. T. E. INMAN.

SIR, – The Kailan Mining Administration of Tientsin in North China — an organisation which managed the joint enterprises of a Chinese group and the Chinese Engineering and Mining Company Limited of London — was faced with a shortage of power on the Government railway system, over which the rapidly increasing output of coal was despatched, and purchased a number of "R.O.D." locomotives, which were then handed over to the Peking–Mukden Railway on a hire purchase arrangement.

The number was, I think, 18, and to the best of my knowledge these locomotives, together with other new British-built main line locomotives, provided by us to the railway on similar terms at a later date, were operating satisfactorily when I left China in 1940. What has happened to them since I do not know.

Edinburgh, 4. P. D. MACFEAT.

Speed by a "1400"

SIR, – On March 8, during a talk in Bristol on Great Western locomotive practice, I mentioned that the "1400" class 0-4-2 tank differs only in detail from the Armstrong "517" class of 1875, but that this need not be taken as an indication of lack of enterprise at Swindon, as for the light duties of these engines modern improvements do not help very much.

An hour later I was on the 4.45 p.m. Bristol–Derby train moving briskly down the 1 in 300 near Haresfield when No. 1441, pushing a single coach, went right past us on the adjacent Western down track. The Derby train was then quickly worked up to about 67 m.p.h. and at that just "held" the tank engine, which was passed only after her driver had shut off steam for the approach to Gloucester.

I was told by the dining car conductor that "races" of this kind are common, and so it is unlikely that the 67 m.p.h. that I observed is the highest speed ever attained by a "1400".

Sheffield, 10. W. A. TUPLIN.

Routes to Barnsley

SIR, – I would like to comment on Mr. Roger Brettle's article in the March issue in order to correct what seem to me to be wrong impressions formed probably as the result of one visit (or only a few) to Barnsley.

The use of an ex-G.C. 4-4-2 tank on the local Barnsley–Cudworth service is restricted to the morning turn or two which he saw, and stems from the use of this type from Barnsley shed (36D) on the 7.0 a.m. to Sheffield and return. After working the morning trip (up to last year it was two trips), the Royston engines take over, usually L.M. Class "2" 2-6-2 tanks. Ex-L & Y. 2-4-2 tanks were tried in this area a few years ago, but then went the way of all strangers, and moved on to Bedford.

Mention is made of Oaks Colliery; this was the old name of the colliery, which is and has been known as Barnsley Main for a long time now. However, the name of the signalbox nearby has not been changed. In the same connection I would point out that the line shown as running from Oaks Colliery Siding Junction to Quarry Junction does not now exist, if it ever did. The misapprehension may stem from the rail access from both these boxes to the Barnsley Main Colliery, but certainly there is no such line for through trains.

The use of the Chapletown loop is not quite so restricted as suggested by the article. Every day the up "Thames–Clyde" runs along this line *en route* to St. Pancras, and is reduced to quite a slow speed as it tackles the adverse gradient to Monk Spring Junction. Over the past few years an occasional Bradford–London train has also used the loop, those not booked to call at Rotherham being the obvious choices.

Finally, after many rumours in recent years, the official notices have since early March been posted proposing closure of the Cudworth–Barnsley branch, "due to heavy losses". There is, however, a more cogent reason; the "lofty viaduct" mentioned in the article is in need of renewal, and this is not deemed to be an economic proposition. Presumably the branch will be closed and the viaduct dismantled in due course.

Barnsley. NORMAN STRAKER.

SIR, – The first railway into Barnsley was not the South Yorkshire but the ponderously titled Sheffield, Rotherham, Barnsley, Wakefield, Huddersfield, & Goole (vested in the Lancashire & Yorkshire Railway on August 2, 1858) which was opened to the public from Horbury Junction on January 1, 1850. According to Eli Hoyle's *History of Barnsley and the surrounding district* 1795–1850, the first train carrying passengers ever to enter Barnsley did so, by this line, on December 3, 1849, bringing with it the directors, engineers and contractors.

The South Yorkshire reached Barnsley on July 1, 1851, when its line from Swinton (the Doncaster–Swinton section having been opened on November 10, 1849) was brought into use. At the outset the service was provided on its behalf by the Great Northern.

The Manchester, Sheffield & Lincolnshire (later G.C.R.) did not absorb the South Yorkshire in 1861. It leased the railway for 999 years on June 23, 1864; by an Act of

July 16, 1874 the S.Y.R. was vested in the M. S. & L. R.

The Barnsley branch of the M. S. & L. R. from Penistone was opened from the latter place as far as Dodworth on July 1, 1854; the section from Dodworth to Barnsley (Summer Lane) was brought into use for passenger traffic on November 1, 1855, and for goods on December 5, 1855. The extension thence to Barnsley (Regent Street), effecting a junction with the L. & Y. and S. Y. Railways, was formally opened on February 12, 1857, having already been used to some extent for coal traffic.

The M. S. & L. R. ceased to run passenger trains into the L. & Y. station at Barnsley on May 31, 1870.

Hampstead, N.W.6. GEORGE DOW.

[*The March issue was also in trouble over Barnsley in another article. Under the recent Regional boundary changes Court House station is not transferred to the N.E.R. and remains in the E.R., but the line thence to Monk Bretton is now within the N.E.R. from a point immediately south of Oaks Viaduct, at milepost* 177½ – ED.]

North Wales excursion – 1957 style

SIR, – Firstly I must congratulate you and your staff on the first-class production of *Trains Illustrated*, which I think is the finest magazine on the market for the railway enthusiast and members of B.R. staff.

Might I comment on the fine article by H. J. Risk, which appeared in the February edition, concerning the routing of diesel and steam train excursions from the Manchester area to Chester and the North Wales coast. There is one slight error on the map reproduced on page 103. The junction at Mickle Trafford faces the other way, i.e., from Helsby (B.J.) on to the Cheshire Lines facing towards Chester Northgate. Two additions could have been made to the map. One of great interest is the new spur at Northwich, consisting of a facing crossover on the Hartford side of the station and then a connection curving round on to the Middlewich and Sandbach single line. This new junction was completed last October. Auxiliary single line tablet machines have been installed on the loop, the points being electrically controlled by the Northwich Station (Junction) signal cabin. This enables trains to go straight on to the Middlewich road without having to reverse in Northwich station. Whilst the spur is primarily intended for freight traffic, principally for the I.C.I., it can be used by passenger services, and is a useful diversion during times of blockage between Hartford Junction and Crewe. No doubt it will be used a great deal whilst electrification work is being carried out on the main line, as it saves the long and tedious diversions via Manchester London Road South Junction or Chester. The second addition to the map might have been the interesting Dyserth branch from Prestatyn.

Stretford, Manchester. R. HUNTER.

★ A "Clan" Pacific visits Stoke – No. 72005 *Clan Macgregor* approaches Blythe Bridge, Stoke-on-Trent, with the 1.40 p.m. Llandudno–Derby on September 8, 1956. [*Anthony Cox*

★ Diesel units in South Wales – the 12.0 noon Merthyr–Barry Island, formed of Derby-built W.R. three-car suburban units, approaches Incline Top, south of Quakers Yard (Low Level) in March, 1958. [*S. Rickard*

The Chronicles of the Eastern Region

SIR, – In your November 1957 issue, Mr. G. F. Fiennes referred to the present E.R. timetable and inferred that we may now expect punctuality.

It was, therefore, with a high degree of keen anticipation that I joined the down "Talisman" one day in January bound for Newcastle. The afternoon was fine and clear and I noted the driver was one I had known since his "Met. Gang" days; I knew he could be relied upon to run well.

Out to Hatfield we did well, gaining a minute, but a p.w. check at Knebworth made us 2½ min. late at Hitchin. Thence to Sandy we ran in traditional G.N. style, but at Offord we encountered signals, culminating in a dead stand at Abbots Ripton. Peterborough was passed slowly 15 min. late and Grantham 21½ min. late. Further checks intervened until at Retford the "Talisman" was turned slow road to pass the "West Riding" standing in the down main platform. (Evidently the "V2" on this train had been running poorly and had caused all the delay).

Thereafter running was fair with a further 2½ min. lost to York, where we stopped in the station for a minute. From York start to Darlington pass occupied only 39 min. (allowance 38 min. pass to pass) and Darlington to Newcastle took 40 min. against 41 booked, arrival at Newcastle being 39 min. late. In view of what happened to the "Talisman" between Offord and Retford it would be most interesting to know whether Mr. Fiennes considers this was the best that could be done in the circumstances.

Next day over lunch I was surprised to hear local businessmen and railway officers agreeing 30 min. late is a fair average for the service. Refusing to believe this, I checked the arrival of the down "Talisman" that evening and found it arriving 31 min. late. Other services were only a very little late. That operational delays are still common on the G.N. section is amply borne out by the runs on the 9.0 a.m. ex-King's Cross quoted in the February issue and it is my opinion the E.R. has a long way to go yet before making such claims as Mr. Fiennes advanced in the November issue.

Some two years back there was much strife between the Operating and Motive Power departments on the G.N. over who was responsible for the continual delays experienced daily. To prove it was not their fault the Motive Power dept. laid on special checks of each main line train throughout the 24 hours, taking details of all delays direct from drivers on arrival at King's Cross. After some months they expressed themselves satisfied with the result, stating they had sufficient evidence to convict the other side, and the check was removed. I was surprised to find on returning from Newcastle that this check has been re-imposed, so we may take it there is still disagreement.

Although not strictly relevant to the above subject, it might be as well to remind Mr. Fiennes that in chapter 9 of his "Chronicles" one may read the most melancholy story of modern railway operating.

London, N.13. ERIC NEVE.

MOTIVE POWER MISCELLANY

LONDON MIDLAND REGION

Midland Division

Rumours current since February that the East Coast Route's abundance of "7P" power or better was to be raided for the Midland Division's benefit may have had their explanation on March 16. On that Sunday "V2" 2-6-2 No. 60855 of Neasden was brought over for weight and clearance tests between St. Pancras and Cricklewood. On the following Sunday the "V2" made a clearance run from Cricklewood to Wigston and back, pausing at several stations, such as Wellingborough, to carry out reversals on crossovers. Gossip has it that an exchange of the G.C. Section "V2s" and the Sheffield (Millhouses) "Jubilee" 4-6-0s is in mind, the aim being to restore the "V2s" and "Jubilees" respectively to E.R. and L.M.R. control and thereby to simplify the stores position regarding each type; if this theory is correct an exchange of Class "5s" and "B1s" may also be in prospect. Another "V2" was on Midland metals in mid-March, for No. 60863 of Leicester (G.C.) was undergoing a valve and piston overhaul at Leicester's Midland shed; it was understood to have come on to the Midland line at Nottingham.

The first use of a Kentish Town "Royal Scot" on the Erewash Valley main line was recorded on February 25 when No. 46152 headed the 2.15 p.m. St. Pancras–Bradford (it passed Ilkeston Junction 44 min. late), returning next day with the 6.0 p.m. Glasgow (Buchanan Street)–St. Pancras Class "C" freight, which was heavily behind time because of snow. On the same day weather conditions caused diversion via the Erewash Valley of a Glasgow–Euston express headed by Class "5" No. 45412(12A) and "Jubilee" No. 45666(12A). On March 10 "Patriot" No. 45547(1A) headed a diverted Willesden–Carlisle freight by this route, and next day Class "O4/3" 2-8-0 No. 63798 was noted on the 12.58 a.m. Toton–Woodhouse Mill Class "H" freight.

A "B1", No. 61009(41A), was noted on the 5.2 p.m. Nottingham–Mansfield on February 26, a train usually worked by a Derby tank. Another "B1" to travel the Erewash Valley recently was No. 61115(50A) on the first trip of a newly introduced overnight Class "C" freight from Dringhouses to Lawley Street, Birmingham, on February 3. This was the night of the "Caledonian's" diversion via the Midland Division, reported last month; we have since heard that No. 45528 worked the express through to Carlisle from London that night, not merely as far as Leeds. B.T.H. 800 h.p. diesel No. D8203 was undergoing braking tests with an 11-coach train at Bennerley Junction Sidings, north of Ilkeston, on March 13.

Two Class "4" 2-6-0s recently transferred to the West Riding from the North-East, Nos. 43016/30, have lately been used on fast freights to Nottingham; No. 43030 headed the 8.50 p.m. Bradford–Nottingham Class "C" on March 11, returning next day with the 9.20 p.m. Nottingham–Carlisle Class "D", and No. 43016 was seen on the same job, up on March 15 and down on March 17. The last Beyer-Garratt, No. 47994, is reported to have left Hasland shed for Crewe to be broken up on February 14. Metro-Cammell three-car and Cravens two-car diesel units are arriving on the L.M.R. for the forthcoming introduction of multiple-unit services in the Derby–Leicester–Nottingham area; the Metro-Cammell sets were on trial between Rugby and Leicester in mid-March. With reference to our recent report, officially inspired, that Derby Friargate depot has been transferred to the Midland Division, correspondents point out that this shed was closed early in 1955 and all its connections taken out; all that is left is a turntable and a signing-on point for crews employed on the passenger service and the daily pick-up freight to Colwick. Closure was carried out in anticipation of dieselisation of the passenger services to and from Grantham, which has not materialised except on Sundays, when all four workings are filled by three-car diesel units from Grantham. A Kentish Town 2-10-0 was noted on fitted freight duty on March 1 when No. 92111 passed Coalville shortly before midnight on what is believed to have been a Cricklewood–Burton Class "C" usually worked by a Burton Class "5" 4-6-0 or 2-6-0; the 2–10–0 returned the next afternoon on the 4.50 p.m. partially fitted beer train from Burton to London. Diesel-electric No. 10800 has been engaged on carriage pilot duties at Derby in the course of tests under works auspices.

A surprising visitor to Bournville shed on February 26 was Class "2" 2-6-0 No. 46467(31A), which was booked to work east on the 3.15 p.m. Birmingham (New Street)–Peterborough. That day the Cleethorpes–Birmingham through train arrived behind King's Cross "B1" No. 61200, instead of the usual Immingham engine. In March a reader suggested that a standard Class "4" 2-6-0 was first seen at Worcester (Shrub Hill) on January 24; from another reader we hear that No. 76085 worked the 9.24 a.m. Great Malvern–Birmingham (New

Street) and the 1.55 p.m. back last November 1, while No. 76085 performed the same duty on November 23 and 25–27.

Western Division

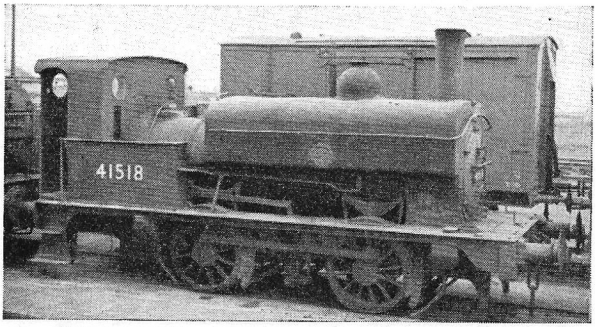
Up Anglo-Scottish trains on the night of February 24/25 were heavily delayed by thick snow and did not reach London until the afternoon; the majority were double-headed by Class "5" and "Jubilee" 4-6-0s in place of their usual "Pacifics", presumably because they had been diverted via Blackburn and Hellifield instead of taking their normal route via Lancaster and Preston, the area most seriously affected. The up "Postal" did not appear at Watford until 1.45 p.m., the up Perth until 2.55 p.m., the up Stranraer (with a Birkenhead portion at the rear) until 4.15 p.m., closely followed by the 10.30 p.m. from Glasgow, and the up Inverness struggled into the suburbs at about 5.30. By contrast the "Deltic"-hauled 2.0 p.m. from Liverpool was only some 20 min. late; the diesel, by the way, returned north on the down 8.30 p.m. "Postal", as it has done several times lately instead of on the 7.20 p.m. Euston–Inverness, so that in this event it works the "Postal" in each direction between Euston and Crewe on the same night. Talking of diesels, in one of their recent visits to Derby for modifications the three ex-S.R. main line locomotives have been de-rated; Nos. 10201/2 are now 1,600 h.p. and No. 10203 1,750 h.p. In view of this it is quite an achievement that No. 10203 has been working the up "Royal Scot" and the 9.10 p.m. Euston–Glasgow all-sleeper single-handed and more often than not is ahead of time when it enters the London area with the southbound train; it was so employed throughout the third week of March.

For the International women's hockey at Wembley on March 8 Southern Pacifics Nos. 34046(75A) and 34089/91/2(73A) brought excursions (one of them a boat train set including Pullmans) to Wembley Central and then proceeded to Watford to turn on the triangle there. A number of specials arrived also from the Midland Division, chiefly with Class "5" and "Jubilee" 4-6-0s from Midland sheds, but one had 4-4-0 No. 40682(17A) paired with "Jubilee" No. 45682(17F). Another Midland visitor to London was Crosti-boilered 2-10-0 No. 92024, which headed an up freight through Boxmoor on March 10. On March 8 a most unusual sight was the arrival in London of the week-day "Royal Scot" behind an unassisted 4-6-0, No. 46161. English Electric 1,000 h.p. diesels Nos. D8000/3 were employed throughout the third and fourth weeks of March on an up Class "D" freight reaching London at about 4.45 p.m.; it was believed to be an early morning departure from Carlisle which the diesels took over at Crewe. For the first time, it is believed, since Nos. 41908/9 were moved from Watford in August, 1955, a Stanier 0-4-4 tank is in the London area. No. 41901 arrived at Watford towards the end of March and from March 25 was noted on the breakfast-time E.C.S. working to Watford of the 5.53 a.m. Bletchley–Euston's stock. At the same time standard Class "2" 2-6-2 tank No. 84004 was on loan to Watford for use on the St. Albans branch. Devons Road shed has taken delivery of B.T.H. 800 h.p. diesels Nos. D8201/3 and they have been employed on freights to Temple Mills and Acton.

A further 19 "Coronation" Pacifics are to be painted maroon, similarly to No. 46245. It is reported that the gas turbine locomotive No. 18100 is being rebuilt by Metropolitan-Vickers at Stockton as a straight electric for the Manchester–Crewe line; it is expected to be ready in October.

Central Division

The heavy snowfalls of the last week-end in February hit Lancashire with particular severity, and the late Monday night trains from Manchester (Victoria) to Blackburn and Accrington did not get through until breakfast time the following day. The 10.45 p.m. Blackpool–Manchester became stuck in a drift at Blackrod and did not arrive until 11.0 a.m. next morning, and the 6.30 p.m. Euston–Colne was in similar trouble near Bolton, eventually reaching Accrington at 4.30 a.m. At Accrington a "Patriot" 4-6-0, No. 45542, appeared on the 6.25 a.m. Blackpool–Skipton 1½ hours late instead of the usual 2-6-0; it returned light to Manchester that afternoon. A half-day



Class "0F" 0-4-0ST No. 41518, recently withdrawn, was the last survivor of this Johnson type for the Midland Railway. [*D. Marriott*

excursion from Birmingham (New Street) to Southport on March 2 was served by three two-car sets of Derby lightweight diesel units, travelling via Wolverhampton, Crewe, Warrington and Wigan (Wallgate). One of the few remaining regular compound 4-4-0 express jobs is on a morning Blackpool–Manchester train, returning with the 4.10 p.m. from Manchester; it is a Blackpool North duty, usually worked by No. 41101. One of three Stanier 2-6-4 tanks recently allocated to Carlisle Kingmoor, No. 42440, has been employed on a daily working over Ais Gill on the 8.5 a.m. Carlisle–Hellifield and the 11.50 a.m. back. An unusual working to Hellifield was noted on March 18 when Class "2P" 4-4-0 No. 40491(55A) was used on the 6.30 p.m. from Manchester (Victoria) instead of the usual 2-6-4 tank.

(For L.M. information we are indebted to Messrs. R. W. Murray, E. Nicholson, R. Ankers, A. Wand, "60111", D. V. Roddis, N. B. Ramsell, A. McKenzie, A. L. Smith, R. E. Taylor, N. Oliver, L. J. Jennings, R. H. J. Brittain, M. J. Whittle, D. C. Bond, A. W. Russell, W. A. J. Brown, I. Ackrill, B. Edmunds. T. Humphries, F. J. Harvey, E. W. Edge, G. Thurlow, G. Winkley, A. Bradley, J. Fairclough, T. E. Rounthwaite, J. E. Taylor, J. C. Machin, I. Longdon, E. Badger, A. Wood, J. G. Tidmash and "Penwortham".)

EASTERN REGION

G. N. Section

For the Cutler's Feast on March 24 a six-coach Pullman special was run between King's Cross and Sheffield, headed throughout by "A4" No. 60033, which made the journey down in 2 hr. 55 min. and up in 2 hr. 58 min. the next day. The first of the English Electric 2,000 h.p. diesel-electrics for the E.R., No. D200, has been delivered from Vulcan Foundry and was running preliminary trials from Doncaster works in the third week of March. In the first half of the month Brush 1,250 h.p. diesel-electrics Nos. D5505/6 were also on trials in the Doncaster area; another unusual sight reported at Doncaster in March was Class "4" 2-6-4 tank No. 80100, seen on the shed on March 3. Class "5" 4-6-0 No. 44950(24E) appeared at Doncaster with an excursion from Blackpool on March 2. New home for a 2-10-0 is Mexborough shed, to which No. 92189 of the latest Swindon-built series has been allocated.

The heavy snowfalls of February 24–25 brought rail traffic in Lincolnshire virtually to a standstill. On the second of the two days the 6.30 a.m. Cleethorpes–King's Cross became embedded in a drift near Louth and was not extracted until the following day; it was bypassed on the down line by the 8.48 a.m. from Grimsby, which was six hours late by the time it reached Boston. On the G.N. & G.E. Joint line the chief trouble came from telegraph poles brought down by the gale, which caused closure of the southbound track from Spalding to March; "O2" 2-8-0 No. 63967 and "B16" No. 61475 were seen leaving their freights in the yard at Spalding, after which they made off light, coupled together, for Peterborough, and the daily Leeds–Whitemoor Class "C" reached Spalding eight hours behind time. On the day before the blizzard an unusual visitor to Spalding was a Neville Hill "B16", No. 61425, which

★ No. D200, first of the English Electric 1Co-Co1 2,000 h.p. diesel-electric locomotives for the Eastern Region, which will be described in next month's issue. [*B. R. Woodward*

travelled through light in the afternoon, heading north. On March 1 a York "K1", No. 62061, passed Boston with a southbound haul of empty cattle wagons, returning two days later on a High Dyke (Grantham)–Scunthorpe iron ore working; another unusual type seen here on an iron ore working was Staveley "O4/8" 2-8-0 No. 63884, on March 15. Most notable sight of all was that of "Britannia" No. 70010(32A) passing Boston on an afternoon Doncaster–New England coal train on March 8; it has always been assumed that the Pacifics were barred from the Grand Sluice Bridge, at the northern approach to Boston station. From March 9 to 23 both of the main lines at Huntingdon North were taken out of service for renewal of track formation. Trains ran over temporary new routes through the station, for which special signals were installed. The down slow platform was used for up trains and the loading dock on the down goods line became a platform for down trains. This diversion did not appear to effect timekeeping to any extent. Ferryhill "A2" No. 60525 worked the 5.5. p.m. King's Cross–York on March 30.

G. E. Section

Two of the surviving Tilbury 4-4-2 tanks at Stratford, Nos. 41949/75, have now been transferred to Spital Bridge, Peterborough, in exchange for Class "3" 0-6-0 tanks Nos. 47282 and 47311. Spital Bridge shed is now recoded 31F (and talking of shed codes, the altered ones on the G.N. section listed last month are now official except that Barnsley is 41G and Langwith Junction 41J).

By mid-March six Brush 1,250 h.p. diesels had arrived at Stratford, and several regular workings had been allocated to them. These included: the 8.15 p.m. Class "D" Northumberland Park–Whitemoor and 12.55 a.m. Class "D" back to Stratford Market; the 8.47 p.m. Class "D" Dagenham Dock–Niddrie as far as Whitemoor and a return working to Temple Mills; and the 10.30 a.m. Liverpool Street–Norwich and 3.45 p.m. back, followed by the 8.50 p.m. Liverpool Street–Cambridge and 11.32 p.m. Cambridge–Spitalfields freight, or (Saturdays only) the 7.54 p.m. Spitalfields–Cambridge and 11.42 p.m. Cambridge–Temple Mills freights. The N.B. Loco. Co. 800 h.p. diesels on order for Stratford are to work cross-London freights to and from the S.R. via the East London line and a new route through South Tottenham, Kentish Town and the Widened Lines to Hither Green. Stratford's Hither Green link is now learning this route, and on March 7 a condensing 0-6-0 tank newly transferred to Stratford from Spital Bridge, No. 47311, was on this training job, coupled to a brake. In this connection our correspondent points out that a mention of a "J17" 0-6-0, No. 65564, at Clapham Junction on January 8 in the March issue concerned a regular morning Stratford-Hither Green working diverted as a result of the collapse of the Nunhead flyover in the St. John's disaster. Normally the train travels via the West London line, Longhedge Junction, Brixton and Nunhead, but until the St. John's bridge was restored it was re-routed from the West London line to Norwood Junction via Clapham Junction and Crystal Palace (L.L.), the return working being via Selhurst and Clapham Junction.

A stranger on Colchester shed on March 11 was Class "O1" 2-8-0 No. 63795(31B). On March 15 a Class "4" 2-6-0, No. 43090 (31D), appeared on the Churchbury loop with the morning freight from the Enfield direction and on March 11 No. 43145(32G) was used on the 7.12 p.m. Goodmayes–Acton freight via South Tottenham and Gospel Oak, both running in after repairs at Stratford. The last two side-window cab "E4" 2-4-0s, Nos. 62789/97, have been withdrawn.

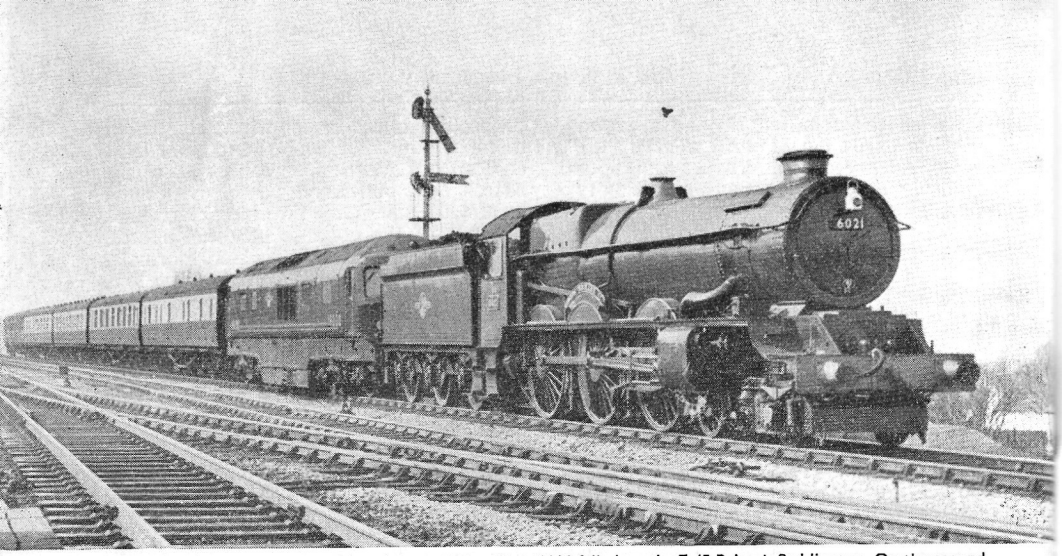
(For E. R. information we are indebted to Messrs. C. W. Woodhead, G. E. R. Denman, F. E. T. Atkinson, T. Shaw, A. Robinson, S. Fox, D. Dyson, P. Drury, J. Thurtle, D. D. Tillotson, P. Glover, N. Freer, G. Broughton, E. P. Tromans, "Pegasus", A. Hales, J. Roberts, F. Adams, H. Leah, T. Thomson, D. G. M. Young, D. Waller, I. Wesley and J. C. Baker.)

NORTH EASTERN REGION

On the evening of March 15 a Longsight "Patriot" 4-6-0, No. 45539, was seen heading an excursion westward through Goole; it was believed to have been a football supporters' excursion returning to Chester.

A "Britannia" returned to the ex-L.N.W. Manchester–Leeds main line on March 15 when No. 70044 was noted on the 3.27 p.m. Leeds–Liverpool (Lime Street). A correspondent supplies some interesting details of a Starbeck "D49" 4-4-0 diagram which may be the longest day's work now performed by one of these engines. It begins with the 6.37 a.m. Harrogate–Wetherby–Leeds, which continues as the 7.52 a.m. Leeds City–West Hartlepool. The "D49" comes off at Stockton and then works the 10.15 a.m. freight from Stockton to Middlesbrough, where it goes on shed. Its final chores are the 11.50 a.m. Middlesbrough–Northallerton and the 12.58 p.m. Northallerton–Harrogate (to Leeds, Saturdays only).

As the capacity of Stratford works has been reduced during conversion to diesel overhauls a number of E.R. "L1" 2-6-4 tanks have recently been repaired at Gateshead works, including Nos. 67708/45/73/87. Our correspondent observes that after about 30,000 miles this type is reputedly a rough rider, with the result that the axle-



★ On two consecutive days in March, gas turbine No. 18100 failed on the 7.45 Bristol–Paddington. On the second occasion, March 4, it was hauled dead from Bathampton to Swindon by No. 6021 *King Richard II*, which was running in after overhaul on a local working. [*Kenneth Leech*

boxes then need attention, and they are also susceptible to the loosening of cylinders in the frames; he suggests that this may have been among reasons which have led to a reduction of cylinder diameter and boiler pressure on some "L1s". Another recent visitor to Gateshead works for tyre-turning has been Alston branch Class "3" 2-6-0, No. 77011.

(For N.E.R. information we are indebted to Messrs. T. G. Clegg, J. H. Dick, T. E. Smith, I. Kergon, L. Schofield, A. S. Woodcock, R. Jackson, "Pomfretian", K. Field and N. G. Miller.)

WESTERN REGION

The prototype "Warship" class diesel-hydraulic locomotive No. D600 made its first visit to its eventual home on March 19, when it worked a 10-coach test train from Swindon to Plymouth via Westbury; it was reported through Exeter 18 min. ahead of the booked time, and reached Plymouth 15 min. early. No. D600 returned eastward the same evening. A contrasting visitor due in the west on May 25 is the 4-4-0 *City of Truro*, which has been advertised to work a photographer's excursion from Exeter to Penzance and back on that date.

Bristol (Temple Meads) was again visited by a Southern Pacific on March 16, when No. 34053 was noted there. When Bristol Rovers had an F.A. Cup-tie with Fulham on March 1 ten specials were run from Bristol to London, all but one powered by "Granges" from St. Philip's Marsh shed. Signs of the recent boundary revisions were evident at Bath Road shed on February 24, which was host to a compound 4-4-0, No. 41078 and an unidentified Caprotti Class "5" on the morning of that day. A week earlier, on February 16, a 2-10-0, No. 92050(18A), was a most unusual sight on Bath (Green Park) shed.

A rare event on March 9 was the use of a Cardiff "Britannia", No. 70017, on the 8.0 a.m. Cardiff–Birmingham (Snow Hill) and the 5.15 p.m. back; according to Kidderminster correspondents, this was only their second view of a Pacific there. Work on a diesel maintenance depot at Worcester is well advanced and it is understood that multiple-units are to commence work in the area this summer. On March 1 the solitary "Grange" at Stourbridge Junction, No. 6803, worked as far as Crewe with a Stourbridge (Town)–Bolton football excursion. A rare type for Crewe was seen there on March 8 when 0-6-0 No. 2270(84C) worked in with a Hinksey–Manchester special freight. On March 16 Class "5" 4-6-0 No. 45190(9A) worked on to the W.R. via Market Drayton with a Manchester (London Road)–Oxford excursion, together with "Jubilee" No. 45574(24E) on the monthly Blackpool–Birmingham (Snow Hill) excursion.

(For W.R. information we are indebted to Messrs. R. Scoble, B. Carpenter, M. R. Cartwright, D. J. J. Rolloson, J. M. Craig, L. Harper, M. R. Petty, P. Oliver, J. Farrar, R. Clarke, R. S. Porter, D. C. J. Langford, "4911", P. J. Jenkins, N. Price, A. J. Thompson, A. M. D. Allen and M. I. Bruce.)

SOUTHERN REGION

By the end of March the first "West Country" rebuilding programme comprising 15 locomotives appeared to be complete, the two additions to the list of 13 given last month being Nos. 34014/6. The conversion work has now reverted to "Merchant Navy" Pacifics, the first of the new series of rebuilds being No. 35002. Diesel-electric 0-6-0 shunters are now working in the Clapham Junction carriage sidings.

On the evening of March 26 electric locomotive No. 20002 was used to work a 10-coach special from Victoria to Brighton

for Lever Bros. When the Queen returned from the Netherlands on March 28, her four-Pullman special was worked by Pacific No. 34037 from Dover Marine to Windsor (S.R.) via Ashford, Herne Hill, Factory Junction, Longhedge Junction and Clapham Junction (West London).

(For S.R. information we are indebted to Messrs. P. K. Tunks, R. Govender, E. Arthur, N. Caplan and M. G. Sturgess.)

SCOTTISH REGION

The event of March in Scotland was the re-appearance in steam of the preserved Caledonian single-wheeler, No. 123. The occasion chosen was the return from Perth to Edinburgh (Princes Street) on March 18 of a press party that had been touring the Highlands at the invitation of the Scottish Tourist Board, and for whom an elaborate period tableau was staged. To match the 4-2-2 in its pre-1923 blue livery two ex-Caledonian coaches, SK No. 3339 and BCK No. 7369, have been restored to their original Caledonian livery and these formed the train, while its crew were also decked out in Caledonian uniform and the inevitable beards and whiskers. The special left Perth at 2.0 p.m. and ran via Stirling, Larbert, Polmont and Haymarket West Junction to Princes Street, Edinburgh, where it was greeted by members of the Scottish Area Board and the Region's General Manager. The arrival was a trifle late, but this was apparently due to the demands of TV cameramen *en route* and not to any deficiencies on the part of No. 123, which was given a very sedate timing. After the reception No. 123 and train were hauled out to Coltbridge Junction by "D49" No. 62714, which then uncoupled. No. 123 resumed charge and followed a loop line used only by freight to Slateford Junction, where it took water before retiring to the seclusion of St. Rollox works.

No. 123 was a unique engine ordered by the Caledonian from Neilsons in 1886 to represent the railway at the Edinburgh Exhibition of that year, and built in no more than 66 days at the maker's Hyde Park works, Glasgow. It was designed by Neilsons, but some Drummond fittings and design ideas, such as divided exhaust, were incorporated; its driving wheels are 7 ft. in diameter, the boiler pressure is 150 lb. per sq. in. and the cylinder dimensions 18 in. by 26 in. The 4-2-2's chief claim to celebrity is its participation in the 1888 Anglo-Scottish race, during which it was the Caledonian's representative between Carlisle and Edinburgh, its best achievement being the coverage of the 100¾ miles in 102½ min. with a four-coach load of 80 tons. It escaped condemnation at the grouping, though it lost its Caledonian livery and became L.M.S. No. 14010, and for many years was kept at Glasgow as power for the Scottish Division directors' saloon. Then, at the end of the 1930s, it was put back into regular revenue-earning work from Perth shed on passenger duties to and from Dundee West, making four trips each way daily. It was withdrawn from traffic in 1935.

In preparation for the forthcoming introduction of diesel services in the Dundee area multiple-unit trials are taking place between Dundee and Perth, Dundee and Arbroath and on the Tayport branch and East Fife line as far south as St Andrews. Another Fowler Class "3" 2-6-2 tank has come across the Border, for on March 20, No. 40049 (1A) arrived at Dundee on the 6.15 p.m. from Perth and was acting as station pilot at Tay Bridge on April 1.

In the Edinburgh area, as in other parts of the country, the initial reaction to the newly introduced diesel multiple-units has not been as favourable as it might be because three- and four-coach steam trains were at first replaced with two-car units, and by the time further deliveries permitted strengthening the psychological damage had been done. Even with four-car diesels there is standing room only on the peak-hour services from such stations as Piershill and Portobello, which was not the case in steam days — in its way, no doubt, an excellent advertisement for the new traction. On March 14 the down "Waverley" arrived at Edinburgh behind "D30" 4-4-0 No. 62428 as "A3" No. 60089 had had to leave the train at Hawick with valve trouble; a stranger on Haymarket shed the following day was Stanier 2-8-0 No. 48612 from Kingmoor shed, Carlisle. "B1" No. 61118 collided with the buffers of Platform 18 at Waverley station on March 18 when arriving with the 2.10 p.m. from Dundee; the locomotive was derailed, but only one of the twelve passengers hurt was detained in hospital. More "D11" 4-4-0s have gone into store. In March three from Eastfield, Nos. 62673/82/89, joined Nos. 62691-4 from Haymarket on the storage line at Longniddry, and two more from Eastfield, Nos. 62671/6, were found in store with "D34s" Nos. 62472/4 at Grangemouth on March 15. The only "D11" to be seen at work south of Edinburgh at present is No. 62690, which was noted hauling "A2" No. 60509 dead in the Newcastle direction on March 20. On March 7, No. 62677 was seen at Thornton fresh from plant and repainted with the new emblem; it is believed to be the only one of the class accorded this distinction so far. On March 3 No. 62690 worked right through to Aberdeen from Edinburgh with the "Flying Scotsman" coaches, which had missed their connection.

A lapse of memory in our March obituary notice of the "V4" 2-6-2s confused their original L.N.E.R. numbers, which were

3401 *Bantam Cock* and 3402, not 3400/1; No. 3402 was therefore the engine which began its career with an all-steel welded firebox, but it was No. 3401, as we wrote, that was tried on the G.E. Section before it went to Scotland.

(For Scottish information we are indebted to Messrs. W. S. Sellar, G. H. Robin, G. A. Mackey, A. R. Cockburn, J. G. Wallace, "46121", I. Johnstone, G. W. Beveridge and B. J. Harding.)

LOCOMOTIVE STOCK CHANGES

"N.Y. A." denotes "not yet allocated" (on official lists received). This list is correct to the following dates: L.M.R., February 22, 1958, E. & N.E.R., March 8, 1958; S.R., February 24, 1958; W.R., February 22, 1958.

SHED CODE ALTERATIONS

The following shed code alterations have been put into operation subsequent to the change in regional boundaries on February 1. The new codes have been used in the locomotive stock change list.

Shed	Old code	New code
Wrexham (ex-G.C.)	6E	84K
Carlisle (Upperby)	12A	12B
Staveley (Barrow Hill)	18D	41E
Sheffield (Grimesthorpe)	19A	41B
Millhouses	19B	41C
Canklow	19C	41D
Bromsgrove	21C	85F
Bristol (Barrow Road)	22A	82E
Gloucester	22B	85E
Dursley		
Tewkesbury		
Neasden	34E	14D
Aylesbury		
Chesham		
Annesley	38B	16D
Leicester (ex-G.C.)	38C	15E
Woodford Halse	38E	2G
Gorton	39A	9H
Dinting		
Kirkby Stephen	51H	12E
Carlisle (Kingmoor)	68A	12A
Carlisle (Canal)	68E	12D
Bath (ex-S. & D.)	71G	82F
Radstock		
Templecombe	71H	82G
Plymouth Friary	72D	83H
Callington		
Yeovil Pen Mill	82E	71H
Weymouth	82F	71G
Bridport		
Chester (ex-G.W.)	84K	6E

NEW ENGINES

200 h.p. Diesel Mechanical 0-6-0: D2009/10-31A; D2011/2-31C; D2270/1-55B; **350-400 h.p. Diesel Electric 0-6-0:** D3413/4/5/6-N.Y.A.; D3424/5-88B; D3481/2/3/4-36A; D3485-35A; D3608/9/10-30A; D3611-31A; **1,250 h.p. Diesel Electric A1A-A1A:** D5505/6-30A; **1,000 h.p. Diesel Electric Bo-Bo:** D8018-1D; **800 h.p. Diesel Electric Bo-Bo:** D8201/2-1D; **Class "9F" 2-10-0;** 92173/4/5/6/7-36A; 92187/8-35A; 92189-36B.

ENGINES WITHDRAWN

4551, 5165, 5419, 7795, 18100, 30038, 30224/33, 31059, 31504/93, 32455/93, 32502/24, 41071/95, 41518, 43491, 43892, 47222/34, 49146/74, 49345, 51321, 62521/61/86, 62788, 64200, 64353, 65147/56, 65432, 65500/71, 65699, 67218/31/65, 68438, 68518/36/76, 68603/28, 68819/29/35/67/71, 69099, 69271/84, 69300/5.

ENGINES REALLOCATED

London Midland Region: D8010/1-1D; 12011-5B; 40047-Wolverton Works; 40185-6H; 41114-17A; 41220-1C; 41320-2E; 42366-14D; 42448-8E; 42480, 42548-24A; 42628-17F; 42854-3D; 43773-9H; 43930-17A; 44378-17E; 45201-24E; 45263-16A; 45344-3C; 45416-3D; 46126-12B; 48089-18C; 48127-18B; 48203-2A; 49180, 49417-5B; 49450-1E; 49452-3B; 51336-24F; 52201-5B; 58181-3C; 58214-15D; 58215-15B; 73067-15C; 80062-6C; 80086-6A; 90584, 90675-26A.

Eastern Region: D2214-32A; 11170/6-32G; 11175-32B; 41949/75-35C; 43174, 43203, 43307/61/95, 43406/31-41B; 43753-41D; 43828, 58146-41E; 47282, 47311-30A; 60854-34A; 61003/4, 61135-30A; 61367-34D; 61751-40F; 61815/34, 61942-30F; 61989-32A; 62588, 62618-31C; 63654-36C; 63947/59-36E; 64333-40D; 64352-40E; 64787/8. 64896-30A; 65388-32B; 68033-38A; 68497, 68530-41A; 68554-38A; 68555-32B; 68581-40A; 68618-40F; 69617/94/8-31C; 69679-32D.

North Eastern Region: D2262/3, D3375-55G; D2268/9-55D; 41251/2-56E; 41253-56F; 42405-56E; 46483-56F; 47403-50A; 47556-55F; 61466-50C; 64203-56A; 64911-56B; 65099-51E; 67311-52F; 67342-50F; 68263-52A; 68425-52F; 68726-55E; 68897, 68934-51A; 68912-53A.

Southern Region: D3046-75C; D3092-70C; D3470-73C; 15216/7-73C; 15220/4/5/6/7/8/9-74A; 31145, 31247, 32414-73B; 32487-70A; 34004/12/4-73B; 34016/7/25/6/7/37-74B; 34072/4/9, 34104/6/8/9-72A; 34083/5/6-74C; 34084, 34100-73A; 34094-70A; 34097/8/9, 34102-71B.

Western Region: 1362-83D; 2251-82B; 3681-88D; 3692-82B; 3694-87K; 3700-86K; 3759-82A; 3859-86G; 4101/75-85B; 4130-86E; 4211-86A; 4589-82A; 4676-87K; 4826-85A; 4934-81C; 4943-85C; 5092-81D; 5104-82B; 5193-83E; 5330-86G; 5339-83C; 5350-85C; 5386-89A; 5396-85A; 5527-88A; 5529-82A; 5539-83E; 5572-83D; 5728/93-87K; 5815-84C; 5933-81C; 5934-83G; 5949-82A; 6322-83A; 6328-86G; 6357-84G; 6366-82C; 6765/9-88C; 6809-82B; 6814-83E; 6816-83G; 6936-82B; 6969-81E; 7210/46-86G; 7722-81A; 7774-86K; 8424-81F; 8429-86H; 8484-86C; 9455-85F; 44364-84K; 48308, 48444, 48524, 48760-86G; 48409/19/52/61/3-87K; 49409-86G; 68585-84K; 75003-85A; 75024-84G.

ERRATA. *March issue.* Engines Withdrawn 68093/6 should read 69093/6.

ENGINE RENUMBERED 0-6-0 Diesel Mechanical shunter 11153 now renumbered D2234.

MULTIPLE UNIT DIESELS

New. **Motor Composite:** E50279; **Motor Brake Second:** E50289, M50306/7/8/9/10; **Motor Composite:** M50324/5/6/7/8; **Motor Brake Second:** M50397, M50472/3/4/5; **Motor Composite:** M50524/5/6/7; **Motor Second:** W50655/6/7/8/9/60; **Motor Brake Second:** M50768/9/70; **Motor Composite:** M50801/2/3; **Motor Brake Second:** W50837/41/2/3/4/5/6/9/51; **Motor Second:** W50890/4/5/6/7/8/9, 50902/4; **Motor Brake Second:** SC51123/4/5/6; **Driving Trailer Composite:** M56152, SC56315/6/7/8; **Trailer Second:** E59109, M59117/8/9/20/1; **Trailer Composite:** M59180/1/2/3; **Trailer Buffet Second:** W59259/60/1/2/3; **Trailer Second:** M59323/4/5; **Trailer Composite:** W59345/9/50/1/2/3/4/7/9; S.R. Diesel Electric Units: Hastings 6-car: 1016/7.

PARK ROYAL RAIL CARS

(*Concluded from page 244*)

to the bolster, which is a fabricated assembly based on two boxed transverse members.

The power equipment is the standard B.U.T. Type "A" 150 h.p. diesel engine, two per motor car, driving through a four-speed epicyclic gearbox to the inner axle of each bogie. Stone's generators, engine-driven in the power car and axle-driven in the trailer, provide the auxiliary power and Smith's combustion heaters are fitted.

The power car seats 52 second class passengers and includes guard's and luggage accommodation, and the trailer seats 16 first and 48 second class passengers and includes a lavatory. A feature of the interior décor is that the side panelling is carried out in leathercloth, instead of the popular plastic. Each car is 57 ft. long over headstocks, the power car weighing 33 tons 8 cwt. tare and the trailer 26 tons 7 cwt tare.

SOCIETY COLUMN

THE RAILWAY CORRESPONDENCE & TRAVEL SOCIETY

THE Railway Correspondence & Travel Society is organising a rail-tour of the Middleton Colliery Railway of the N.C.B., by permission of the Area General Manager on June 7, next. This tour, which is being organised in conjunction with the Railway & Canal Historical Society, is taking place on the nearest practicable date to the bicentenary of the original Act, and is also of particular interest in view of the impending closure of the line. Applications for tickets, enclosing stamped addressed foolscap envelopes, should be made to Mr. R. K. Walton, 178 Wrose Road, Bradford 2. The "Roses Rail Tour" on June 8, by multiple-unit diesel, has been planned to include several normally inaccessible lines etc. in an area of Lancashire and Yorkshire covered by the former L.Y.R., M.R., N.E.R., G.N.R., and G.C.R. At Doncaster, the locomotive works and motive power depot will be visited. Departure will be from Manchester (Victoria) at 9.4 a.m. via Burnded and Rosehill Junctions, Radcliffe, Bury, Accrington, Skipton, Ilkeley, Harrogate (reverse); thence via Wetherby, Church Fenton, Knottingley, Shaftholme Junction and into the works yard at Doncaster at 1.33 p.m. After the works and shed visit the return will be via Mexborough, Barnsley (Court House), Royston, Thornhill, Dewsbury, Todmorden, Rochdale, Bury Loop Junction, Prestwich and Cheetham Hill Junction arriving at Manchester (Victoria) at 7.10 p.m. The fare, including itinerary, is 27s. 6d. (children under 14, 12s. 6d.). A refreshment service will be available. Packed meals at 3s. 6d. or 4s. 6d., which must be pre-ordered but paid for on the train, are also available. Applications, enclosing remittance and stamped addressed envelope (foolscap size), should be made to Mr. D. R. Smith, 41 Dorset Street, Bolton, Lancs.

THE RAILWAY CLUB

FOR his Presidential address to the Railway Club on Friday, March 7, Mr. T. S. Lascelles chose as his subject "Some Features of Continental Signalling Practice". With the aid of pictures and diagrams displayed on the episcope, Mr. Lascelles showed how the adoption of principles varying from those followed in Great Britain have resulted in designs of equipment not met with here. Explanations were given as to the use of revolving disc signals for interlocking purposes in France, together with the use of semaphores for block signalling. Discussion then turned to the origins of route-setting in power signalling at the beginning of the century, which in some designs incorporated the "entrance-exit" theory. Cab signalling apparatus was also referred to. Turning to German practice, Mr. Lascelles explained the application of double-wire transmission to both point and signal, the use of wire breakage locks, trailable point locks and mechanisms, point indicators and signal aspects. Reference was also made to German block-working and A.T.C. and contrasts made with methods in other countries and the influence of English and American ideas. Mr. Lascelles concluded with a brief review of Italian methods, including peculiarities of signal aspects, the wide application of hydraulic and then electric power signalling, route-setting and the recent development in the remote control of junctions. On May 2, members will hear a paper by Mr. H. A. Vallance, entitled "From London to Inverness by Day".

THE LOCOMOTIVE CLUB OF GREAT BRITAIN

AN attractive rail-tour has been arranged for Saturday, June 28. A train will start on a 120-mile journey from St. Pancras at 1.25 p.m. and will run via the North London Incline (not normally used for passenger trains), Camden Road, Kensal Green and Willesden No. 7, thence to Wolverton including the branches to Rickmansworth (Church Street) and Aylesbury (High Street) which are now closed to passenger traffic. From Wolverton the train will proceed to Newport Pagnell, returning to Wolverton for a non-stop run to Euston, where it is due at 8.35 p.m. Motive power will consist of Class "2P" 4-4-0 No. 40672 for most of the journey. From Watford Junction to Rickmansworth and return a Class "2P" 2-6-2 tank will be provided and for the return journey over the Newport Pagnell Branch a unique opportunity will be afforded to travel behind a Ramsbottom 0-6-0 saddle tank borrowed from the Wolverton carriage works. The fare for this tour, including itinerary, is 15s. and applications for tickets should be addressed to Mr. P. Blackburn, 53 Devonshire Road, London, N.W.7.; a foolscap s.a.e. should be enclosed. Tickets etc. will be forwarded approximately two weeks prior to the tour. Early application is advised as accommodation is strictly limited. The General Secretary of the Locomotive Club of Great Britain is Mr. C. F. Firminger, 8 Godfrey Hill, Woolwich, London, S.E.18.

THE GLOUCESTERSHIRE RAILWAY SOCIETY

THE Society's annual tour this year will be held on Saturday, May 10 and will be by diesel railcar set leaving Cheltenham St. James at 9.10 a.m., Gloucester Eastgate at 9.30, and Bath (Green Park) at 10.30. The cars will then travel the Somerset & Dorset line to Templecombe, the S.R. main line thence to Axminster and the branch to Lyme Regis. On the return the train will leave at 4.19 p.m. and return over S.R. metals to Yeovil, where it will join the Western Region and proceed via Frome, the North Somerset line, calling at Stapleton Road to set down, and reach Gloucester 9.0 and Cheltenham about 9.16 p.m. The fare will be 42s. 6d. (children half-price) and a surcharge of 7s. 6d. will be made for those who wish to travel in the limited first class accommodation.

THE STEPHENSON LOCOMOTIVE SOCIETY

WITH the co-operation of British Railways it is possible to resume rail-tours in Scotland and the Stephenson Locomotive Society (Scottish Area) invites those interested to attend the first which will take place on Saturday, May 3 and cover the Aberfoyle and Kilsyth branches, closed to passengers in 1951. The special train, composed of an ex-N.B. 0-6-0 with corridor stock, will leave Glasgow (Queen St. High Level) at 1.10 p.m. for Kilsyth terminus via Kirkintilloch. Returning to Kelvin Valley Junction, the 25-mile, single-track Aberfoyle line will then be traversed with photographic stops at Lennoxtown, Blanefield, Balfron and Bucklyvie. Returning to Glasgow the former City Union line from Springburn will be used to reach St. Enoch station at 8.50 p.m. The tour will cover some 75 miles of which 60 are over lines with no passenger service. Tickets are price 16s. and can be obtained by post from the Hon. Area Secretary, W. A. C. Smith, 46 St. Andrew's Drive, Glasgow, S.1. A special train over the western section of the former N.S.R. (and other lines) will leave Birmingham (New St.) at 1.15 p.m. and Stafford at 2 p.m. on Saturday, May 31 and proceed via Wellington, Market Drayton, Stoke, loop line to Kidsgrove (Liverpool Road), back along part of the loop line and the Pinnox branch to Longport, where it will reverse for Kidsgrove and Sandbach. The train will then take the Northwich (new) avoiding line, and run via Hartford and Greenbank (C.L.C.), Acton Bridge (L.N.W.), reversing to Crewe and Alsager and reversing again to traverse the branch to Keele and Silverdale. Finally the Trentham Gardens branch will be visited. Tickets are 22s. from Birmingham and 16s. from Stafford and are obtainable from S.L.S. Rail Tours, 38 Pamela Road, Northfield, Birmingham 31.

●

The deaths have recently been recorded with regret of two distinguished men in the British railway world. Mr. C. K. Bird, who died on February 28, was appointed Chief Regional Officer of the Eastern Region at the formation of British Railways and was at the head of affairs, latterly as General Manager of the E.R., until ill health forced him to retire at the end of last year. On March 21 there occurred the sudden death of Lt.-Col. G. R. S. Wilson, the Chief Inspecting Officer of the Ministry of Transport & Civil Aviation, whose illuminating paper on the work of his department, reported in our last issue, we had heard him deliver only a week or so earlier.

SMALL ADS

Announcements in this column cost only 4d. per word and will be read by upwards of 35,000 people. Insertion, which must be prepaid, to be addressed to "T.I.", Small Ads., Craven House, Hampton Court, Surrey. Copy must be received by the 28th of the month, five weeks before publication date.

TRAIN PHOTOGRAPHY. Start now with HOW TO PHOTOGRAPH TRAINS by John Mills. Packed with really crisp train photographs. 7/6 from your railway bookseller.

THE LOCOMOTIVE PUBLISHING COMPANY has for sale two original water colour paintings of locomotives: L.M.S. "Jubilee" class 4-6-0 No. 5664 *Nelson* in red livery. 14" × 19"; B.R. (L.M.R.) 4-6-2 No. 46257 *City of Salford*. 13" × 30". Suggested price 10 guineas each but offers would be considered. Craven House, Hampton Court, Surrey.

SPECIAL OFFERS. East Coast Route, 4/6; Lines of Character, 10/6; Album Coloured Locomotive Plates (pre-1923 grouping), 5/-; By Rail to Victory (L.N.E.R. Saga), 3/-. Railway and Model Railway Books, Periodicals, second-hand, new. Bargain List 2½d. Pinder, 13 Forfield Place, Leamington Spa.

AMERICAN MAGAZINES. One year subscriptions: Model Railroader, 46/6; Model Trains, 28/6; Trains, 46/6; Railroad Magazine (2-years), 42/6; Specimens, 4/- each. Full list free. Hobson, 344 Topsham Road, Countess Wear, Exeter, Devon.

5,000 RAILWAY AND LOCOMOTIVE BOOKS. New and old. Railway periodicals, etc. Enquiries invited (enclose 3d. stamp). 20-page catalogue of the "Edwards Brothers" series of railway blueprints, 1870/1945, 1/9 post paid. Norman Kerr, Bookseller, Cartmel, Lancashire.

SOUTHERN H2 ATLANTICS. Set of five fine Post Cards, 3/6 post free. Pamlin Prints, 73 Temple Road, Croydon.

HOW TO PHOTOGRAPH TRAINS by John Mills. Packed with features, photographs and tips on how to make successful pictures. 7/6 from booksellers everywhere.

BLUEBELL LINE TRAINS. Set five fine Post Cards. 3/6 Post Free. Pamlin Prints, 73 Temple Road, Croydon.

CORRINGHAM RAILWAY BOOKLET. Illustrated, duplicated. Send 9d. 5 Kingsand Road, S.E.12 Also Ashover Book 2/-.

WANTED ABC of L.M.S. Locomotives, 1944 and 1946 (1st edition). Wilkinson, 51 Lady Somerset Road, London, N.W.5.

WANTED Branch line platform tickets. Offers – T. Velvick, (EO), 7 Coombe Road, Eastbourne, Sussex.

SALE. Brand new first edition *World Railways* 1950/51, compiled Henry Sampson. 3 guineas – Apply Reeves, 11a Hammerton Grove, Pudsey, Yorks.

LOCO ENTHUSIASTS. Why not join the B.L.S. this year? Visits to loco sheds and works. Postal query service. Cheapest society offering monthly magazine. Minimum age 14. Send 3d. stamp to Secretary, British Locomotive Society, 41 Hoadly Road, Cambridge, for particulars.

WANTED. Indexes to *Railway Magazine* 1948 to 1956 and *Railway World* 1953 and 1956 – B. Hilton, 13 Manor Road, Shaw, Oldham, Lancs.

ANYONE OVER 12 is invited to join The Burton and South Derbyshire Railfans Club. S.A.E. Secretary, 29 Wellington Street, Burton-on-Trent, Staffs.

PHOTOGRAPHY – Selection of rail and road photographs, approvals sent on request; try our developing, printing and enlarging service – Walker, 24 Burlington Gardens, London, N.W.3.

TRAINS ILLUSTRATED No. 1 (1946) – No. 39 (December 1951) inclusive. What offers? Knowlman, 34 Parsons Green, S.W.6.

THE WOLVERHAMPTON LOCOMOTIVE SOCIETY runs organised visits fortnightly to motive power depots and works. Picking up points include Wolverhampton, Walsall, West Bromwich and Birmingham. No subscription or membership fee. News sheets giving latest shed changes are issued to members participating on visits. Full details of programme, etc., can be obtained from the secretary, F. A. Smith, 45 Duckhouse Road, Wednesfield, Staffs.

PHOTOGRAPHS. Light railways, Industrials, Manx and Irish. Lists now available: 2d. s.a.e. – City Photographic Service, 56 Berkeley Avenue, Greenford, Middlesex.

RAILFANS CARAVANS FOR HIRE. Weston-super-Mare. Western Main Line alongside site. Details: 14 Collins Street, Avonmouth, Bristol.

RAILWAY PHOTOGRAPHY. Expert developing, printing, and enlarging service. Highest quality work. Satisfied customers in many parts of the British Isles. Post your requirements or call. W. Vaughan-Jenkins, Templecombe, Somerset.

FOR SALE. 65 *Trains Illustrated*, 24 *Railway Magazine*. Offers, list S.A.E. Garvie, 1 Waltham Villa, St. John's Road, Hitchin.

LOCOSPOTTERS FIXTURES

THE NORTHERN RAILFANS CLUB

This Club's programme for May and early June includes the following visits: **Saturday, May 17**—Crewe Works 10.15 a.m. (Mr. Smith); **Sunday, May 18**—Crewe Works 1.30 p.m. (Mr. Smith); **Sunday, May 25**—Horwich Works and 26C (Mr. Hawley); **Friday, May 30**—Glasgow Area (Mr. Hawley); **Sunday, June 1**—Crewe Works. (Mr. Smith).

Send S.A.E. for details to Divisional Secs., Mr. C. B Brown, 17 Glen View Street, Cornholme, Todmorden, Lancs., Mr. T. H. Smith, 380 Underwood Lane, Crewe, Cheshire, or to the Club President, Mr. Ray A. Hawley, "Torview", Goostrey, Crewe, Cheshire.

South Birmingham L.S.C. Club meetings will be held at Cotteridge School, King's Norton at 7.30 p.m. on **May 8 and 22.** The following visits have been arranged: **May 4** – Newport, Cardiff, Barry, Severn Tunnel & Lydney, Fare 22/6; **May 11** – Stockport & Manchester Area, Fare 21/6; **May 18** – Crewe Works & Chester 6A, 84K & Northgate; **June 1** – Gloucester and Bristol, Fare 12/- under 16, 20/6 Adult. 3d. stamped addressed envelope for details to Mr. R. W. Murray, 177 Beaumont Road, Birmingham 30.

Gloucestershire L.S.C. The following trips have been arranged: **Gloucester Branch: Sunday, May 11** – By coach to 5A, 6C, 8A/C/E, 27A/B/E. Fare from Gloucester 20/-. **Sunday, May 25** – By rail to Sheffield, private coach from Sheffield visiting 19A/B/C, 41A, 36A/B. Fare from Gloucester 20/-. **All Branches: May 31 and June 1.** Two-day tour by coach visiting 36C, 40A/B, 50A/B/C, 53A/B/C/E, 55A/B/C, 56B/C. Fare including one night B.&.B. 55/- from Gloucester. Full details from Area Secretary, Mr. P. J. Sharpe, The Nook, Huntley, Glos.

Gloucestershire L.S.C. Swindon Branch. A new group has now been formed in Swindon and all locospotters in the area are invited to contact the Group Secretary, Mr. J. G. Cole, 165 Cheltenham Road, Gloucester. The following trip has been arranged: **Sunday, May 4** – By coach to 84E, 3B/C/D/E, 84A/B/E/F, 85D. Half fare 15/6. Depart outside Swindon Junction Station at 7.30 a.m. Owing to the short notice being given, it will not be necessary to book in advance for this trip. Full details from Mr. J. Cole.

Bournemouth Railfans (affiliated to the I.A.L.S.C.). The following trips have been arranged: **Sunday, May 18** – Cambridge, March, New England and Spital Bridge sheds; **Sunday, June 1** – Cardiff and Newport areas. A new branch of this club has been formed at Basingstoke. Full details of this branch and of all trips from Mr. B. Panton, 129 Parkwood Road, Bournemouth. Please enclose S.A.E.

Sheffield L.S.C. The following fixture has been arranged: **May 11** – 10B, 11A, 24C, E, F, G, H and J. Details from Mr. M. T. Loukes, 9 Woodview Terrace, Nether Green, Sheffield 11, enclosing S.A.E. for reply.

AMR East Midlands Locospotters – The following outings are being arranged for **Sunday, May 18** – Sheds at Shrewsbury, Stafford and Wellington; **Thursday, May 29** – Liverpool Sheds at Bank Hall, Walton, Aintree and Edge Hill. (By train); **Sunday, June 28** – Bristol and Bath Sheds. Railfans' Special on **Sunday, September 21.** A.M.R. "Creworton Flyer" by diesel train from Leicester, Loughborough, Nottingham and Derby to visit Crewe and Gorton Loco Works. For further details, write to Mr. J. H. Gibbons, A.M.R., 82 Arkwright Street, Nottingham. Please enclose a stamped envelope.

Scottish Railfans – The following fixtures have been arranged: **May 18** – York and Newcastle trip cancelled.

FIXTURES—continued

Provisional substitute trip to Manchester area and Gorton and Horwich works; **June 15** – Edinburgh and Leith. Apply enclosing S.A.E. to the Regional Secretary, Mr. C. Minay, 5 Osborne Terrace, Edinburgh 12.

The South Lancashire Locomotive Club (affiliated to the I.A.L.S.C.) are visiting sheds in Somerset, Devon, Cornwall, Hampshire, Kent, and Surrey from **August 31 to September 6.** Few vacancies. Full details on request to the secretary enclosing S.A.E. Cost, which includes all travelling, meals, accommodation, etc. £15/10/- under 16, £16/10/- over 16 from Manchester. Mr. C. F. Walklet, 7 Westcroft Road, Burnage, Manchester 19.

THE TICKET AND FARE COLLECTION SOCIETY

offers the following facilities to members

1. Monthly News Letter reporting ticket news.
2. Substantial distribution of withdrawn tickets.
3. Ticket Exchange Pools.
4. Monthly Meeting or Lecture in London.
5. Lists of pre-nationalization tickets still available.

1958 Subscription 12/6d.
Minimum Age 15

For a specimen News Letter write to

G. H. PAGE,
50 Radnor Road, Harrow,
Middlesex.

The Back Number Specialist Can Help You!

❖ ❖

TRAINS ILLUSTRATED each
No. 14 (Vol. 2)–Dec. 55 ... 1/6d.
Jan. 1956 onwards ... 2/0d.

BUSES ILLUSTRATED
No. 14 – Date ... ... 2/6d.

RAILWAY MAGAZINE
1925 – Date ... ... 2/0d.

MECCANO MAGAZINE
1932–1941, 1954–Date ... ... 1/0d.
1942–1945, 1950–1953 ... ... 9d.
1946–1949 ... ... 6d.

Please add 3d. postage per magazine

❖ ❖

LENS OF SUTTON
50 CARSHALTON ROAD
SUTTON, SURREY

Saracen's Head Buildings

Famous house of the Past.

Equally Famous at the Present...

COLOUR HALF-TONE & LINE REPRODUCTIONS
ILLUSTRATIONS OF ALL KINDS
PHOTOGRAPHY • ART WORK

THE JOHNSTON ENGRAVING Co. (1924) LTD

The house for Quality & Service

36/37, COCK LANE, SNOW HILL, E.C.1.

Telephone : CITY 5218/9

BLOCKMAKER TO ALL IAN ALLAN PUBLICATIONS

BUSES ILLUSTRATED

2/6 monthly

The monthly magazine devoted entirely to the average enthusiast who has been caught up by the fascination of the many aspects of the road passenger transport industry. In addition to a monthly quota of first-class articles written by some of the most authoritative writers, each issue of *Buses Illustrated* includes a fine selection of photographs of buses past and present.

From all booksellers or direct from the publishers *Annual subscription* 32/6 *post free*

Ian Allan Ltd **HAMPTON COURT · SURREY**

Trains Illustrated SUMMER ANNUAL

specially designed for your holiday reading

EDITED BY
G. Freeman Allen

CONTENTS

NORTH WALES IN SUMMER. WEST HIGHLAND ALBUM.
THE LAST OF THE BRITISH 2-4-0S – THE G.E. INTERMEDIATES.
BRITISH THROUGH COACH TRAVEL IN BYGONE DAYS.
SIXTEEN HOURS FOR 138 MILES – BY SOUTH AFRICAN MIXED TRAIN.
THE SCARBOROUGH – MIDDLESBROUGH LINE IN PICTURES.
HOLIDAY TRAFFIC TO THE YORKSHIRE COAST.
RACEDAY AT DONCASTER THIRTY YEARS AGO.
ROPE-HAULED PASSENGER TRAINS ON SPAIN'S LANGREO RAILWAY.
SUMMER SATURDAY AT A LONDON TERMINAL – PADDINGTON.
FIRING A "JONES GOODS" ON THE HIGHLAND.

64pp: 9½″ × 7¼″ Illustrated **5/-**

Ian Allan Ltd **HAMPTON COURT · SURREY**

COUPON 1 UNIT

Ian Allan Ltd

Save these coupons. Vouchers for new books will be sent against the following quantities surrendered: 25 coupons 2/6; 50 coupons 5/–; 100 coupons 11/–.

777/C/350/458 *Published in England by Ian Allan Ltd., Craven House, Hampton Court, Surrey, and printed at the Philips Park Press by C. Nicholls & Company Ltd.*